

FIND YOUR BASE: 5 WAYS TO IDENTIFY YOUR STARTING POINTS

MUSCLE & PERFORMANCE

JANUARY 2016 • MUSCLEANDPERFORMANCE

**DROP
5 OR 10
POUNDS
FAST**

**NEWBIE
NUTRITION
MADE
SIMPLE**

**SIZE OR
SHRED:
YOUR 24/7
SUPPS PLAN**

**ROBERT
TIMMS:
CANCER
SURVIVOR
GONE
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**2016
STARTER'S
GUIDE**

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CLINICALLY TESTED MUSCLE BUILDING

BEEF PROTEIN

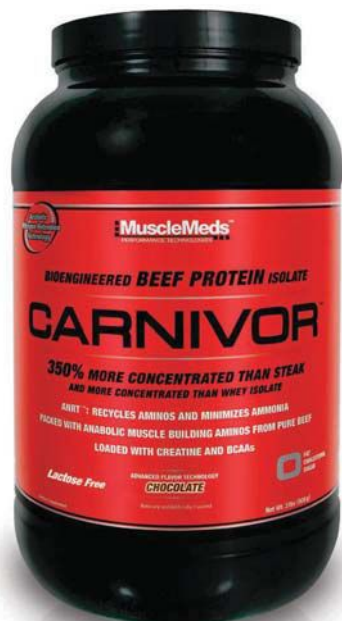
2 SCOOPS, 8 WEEKS
8 LBS. MUSCLE MASS*

The muscle building power of beef cannot be disputed. Ask most any bodybuilder and they will tell you that they make their biggest muscle gains and feel their strongest when they eat beef. Thanks to the development of CARNIVOR's advanced bioengineered Beef Protein Isolate (BPI), MuscleMeds has formulated a highly anabolic muscle building protein supplement that's shown in clinical research to build muscle mass and increase strength!

A new clinical study demonstrated that hard training athletes supplementing with CARNIVOR Beef Protein Isolate gained an average of 7.7 lbs. of muscle mass in just 8 weeks, while increasing strength. Researchers gave male test subjects 2 scoops of CARNIVOR BPI daily for 8 weeks while they exercised 5 days weekly. Athletes taking CARNIVOR BPI added an impressive 6.4% average increase in lean body mass. In contrast, the placebo group did not significantly improve their muscle mass from baseline.*

The study also showed that CARNIVOR BPI supplementation significantly increased lifting strength. Test subjects increased their average bench press strength by over 45 lbs. and added more than 90 lbs. to their deadlift over baseline.* These impressive clinical findings clearly validate the muscle and strength building power of CARNIVOR Beef Protein Isolate.

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TRIGILI
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EXPERIENCE THE POWER OF BEEF AT THE SPEED OF WHEY!

23g
PROTEIN

0g
FAT

0
CHOLESTEROL

0g
SUGAR

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you get all the power of 100% beef with 0 fat, 0 cholesterol, 0 sugar, 0 lactose and 0 gluten. CARNIVOR is loaded with creatine, BCAAs and BCKAs for even more muscle building power. Don't be fooled by the other poorly formulated beef protein imitators. BEEF UP your muscles and get the results you want with CARNIVOR!

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- MORE CONCENTRATED THAN WHEY OR STEAK
- LOADED WITH CREATINE & BCAAs

WORLD'S #1 SELLING BEEF PROTEIN

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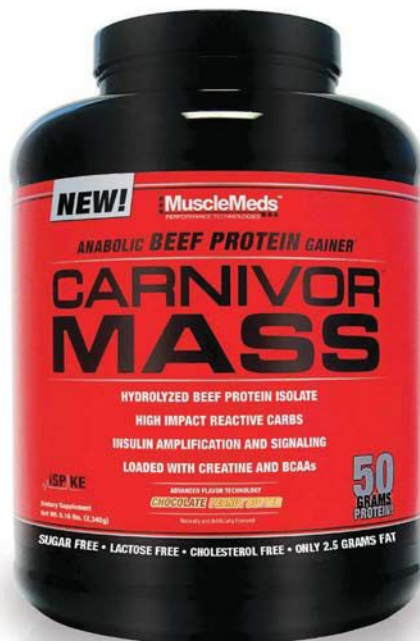
50g
PROTEIN

720*
CALORIES

0g
SUGAR

Welcome to a new era in mass building supplementation with CARNIVOR MASS, the fast, clean and highly anabolic lean mass gainer that provides your muscles with 50 grams of hydrolyzed Beef Protein Isolate (BPI) and 125 grams of high impact reactive carbs. CARNIVOR MASS combines a unique best-of-breed BPI with an exclusive iSpike™ technology to deliver a near-perfect insulin spike to support maximum muscle anabolism, glycogen replenishment and tissue regeneration to kick start your recovery, while helping minimize fat storage. With CARNIVOR MASS, you get the mass building support of beef at the speed of whey without the lactose, allergies and other problems that are frequently associated with the use of dairy products. And CARNIVOR MASS tastes amazing! If you're serious about making big muscle gains, start supplementing with CARNIVOR MASS and watch yourself pack on size right before your eyes!

- **50g HYDROLYZED BEEF PROTEIN ISOLATE**
- **720 HIGHLY ANABOLIC CALORIES***
- **125g HIGH IMPACT REACTIVE CARBS**
- **LOADED WITH CREATINE & BCAAs**
- **SUGAR FREE & LACTOSE FREE**
- **ONLY 1.5g FAT***



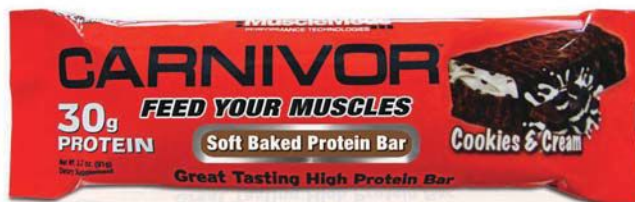
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30g
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AMAZING
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Available in Chocolate Peanut Butter and Cookies & Cream!



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15g
PROTEIN

190
CALORIES

CONVENIENT
AMAZING
HOMEMADE TASTE

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JANUARY 2016

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If you're starting the year off by planning out your diet to the calorie, please stop. To get into the specifics, you're going to need to master the basics. This beginner's guide helps you to understand the most important guidelines for remaking your physique in 2016.



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44 SUPPS BY THE SECOND

What's a pre-workout? Should I take supps at night? What should I be taking now? What about now? Those new to sports nutrition will have these questions answered — and then some — with our around-the-clock guide to supplementation.

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ON THE COVER: MRI Athlete Kyle Clarke
Photographer: Cory Sorensen

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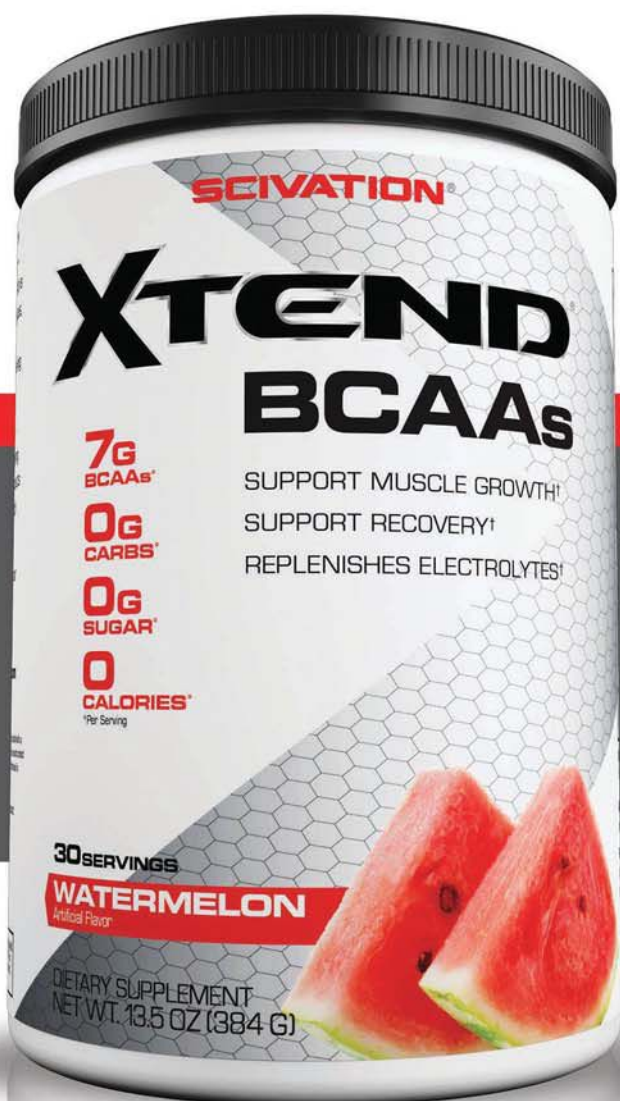


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*Scheett, et al. Consuming branched-chain amino acid supplement during a resistance training program increases lean mass, muscle strength and fat loss. Journal of the International Society of Sports Nutrition 2009, 6(Suppl 1):P1

*Scheett et al. Consuming branched-chain amino acid or whey protein in combination with hypocaloric diet differentially effects muscle mass, body fat and strength in trained subjects. Manuscript in Process.



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BODY SHOP

SUPPLEMENTS / NUTRITION & HEALTH / TRAINING

BETA-ALANINE: SUPPLEMENT SUPERSTAR



» We all have our favorite supps that tend to be the ones that work best for helping us achieve our individual goals. Researchers tend to call this “anecdotal evidence,” or personal, unscientific accounts of a product being effective. Yet generally speaking, the ultimate test for supplement efficacy is years of substantiated published and undisputed evidence proving its benefits, and very few carry this distinction. One that does is beta-alanine.

Recently, the International Society of Sports Nutrition published a position stand about beta-alanine. In this article, 14 of the top supplement scientists from research institutes across the globe chimed in on the research-proven effectiveness of beta-alanine. These scientists collectively reported the following five points regarding beta-alanine as a world-class sports supplement:

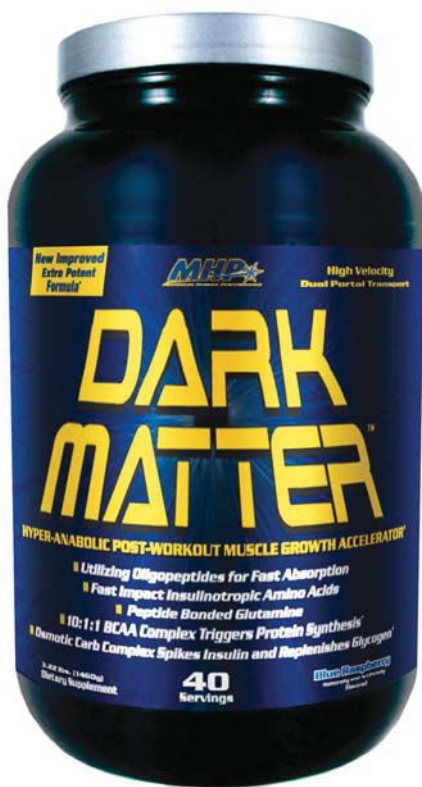
- 1) Beta-alanine supplementation is safe.
- 2) Four weeks of beta-alanine supplementation (4 to 6 grams per day) significantly boosts concentrations of muscle

carnosine, which serve to buffer increases in acidity in exercising muscle.

3) The only substantiated side effect of high-dose beta-alanine supplementation is a tingling sensation in the skin, called paresthesia. Paresthesia can be avoided by dividing your daily dose into three or four smaller doses (no more than 1.6 grams each) and taking them throughout the day. That said, paresthesia associated with beta-alanine supplementation is harmless and shouldn't be a cause for concern.

4) Daily beta-alanine supplementation (4 to 6 grams per day) for at least two to four weeks improves exercise performance — specifically, increasing training volume and power and delaying fatigue — especially when exertion lasts between one and four minutes.

5) Beta-alanine becomes more effective when stacked with other supplements like creatine. This synergy is not immediately apparent and generally becomes noticeable after four weeks of consistent supplementation.



MAX STACK

GREAT RECOVERY

» Preworkout supplements get all the love these days, but postworkout recovery is as important as anything when it comes to maximizing size, strength and performance. Make sure you're pounding these key ingredients immediately following intense workouts:

Creatine: Creatine just about does it all with regard to both exercise performance and results you can see in the mirror. It can provide an immediate boost to lifting strength, power and endurance; increase mass as it promotes recovery; add volume to muscles; and play a role in fat burning. And with decades of research to back it up, creatine is proven to be safe even with regular long-term use.

Glutamine: Few amino acids support recovery like this one, which is why hard-training athletes and bodybuilding types have been relying on it after workouts for years. Glutamine is proven to bolster immune system function, which will come in handy during these waning weeks of winter.

Fast-Digesting Carbohydrates: After a hard workout, "simple" carbs in addition to protein are a must for optimizing the anabolic environment. Taking in simple carbs will replenish glycogen stores, boost insulin levels (which is highly desirable after training to deliver nutrients to the depleted muscles) and promote protein synthesis.

Find these ingredients and others in: **MHP Dark Matter**

STAY HEALTHY

RHODIOLA TO THE RESCUE

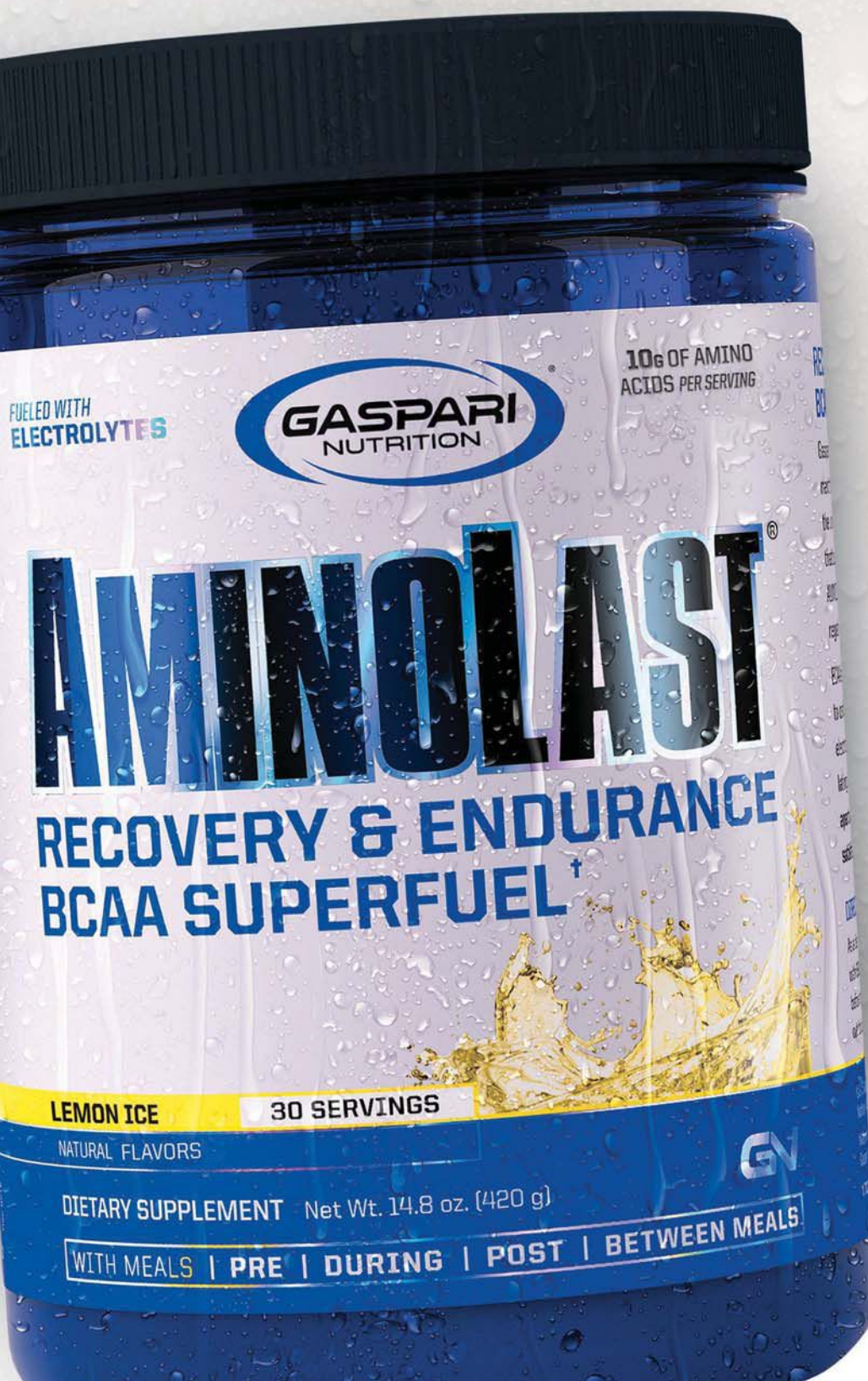
» Want to lessen your chances of getting sick this winter? Of course you do, so take this: *Rhodiola rosea*, a potent herbal adaptogen that's known to increase the body's ability to handle stress and fatigue. Beyond this, studies report that it contains active compounds with anti-microbial potential.

From a recent study published in *Frontiers in Nutrition*, scientists from Appalachian State University (Boone, N.C.) tested the anti-viral and anti-bacterial activity of *Rhodiola rosea* in the blood samples of experienced marathon runners following supplementation. Subjects were randomly divided into two groups, and received either *Rhodiola rosea* (600 milligrams per day) or a placebo for one month prior to competing in a marathon, the day of the race and for a week afterward. Blood samples were collected the day before the race and at 15 minutes and 90 minutes post-marathon. Blood serum was then tested for anti-viral and anti-bacterial activity in vitro. Although *Rhodiola rosea* did not induce anti-bacterial properties, it exerted significant anti-viral effects post-marathon.



ACTION POINT: We're all susceptible to viruses, especially in the winter and during times of heavy training. And taking *Rhodiola rosea* may protect you from catching a nasty cold, which means you can spend more time training and less time at the doctor's office. **For anti-viral protection, take 300 to 500 milligrams of *Rhodiola rosea* twice per day before breakfast and dinner.** The most potent products contain standardized active rosavins and salidroside in a 3:1 ratio.

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FAFQ (FREQUENTLY ASKED FOOD QUESTIONS)

Q: HOW MUCH WATER SHOULD I DRINK DAILY?

A: We all know that staying hydrated is important for your health, but it's equally vital for your mood. In fact, studies show that drinking up to 2.5 liters of water daily can improve mood while drinking only a liter of water (or less) a day reduces general well-being.

For the average person, eight glasses or 2 liters (about 67 ounces) of water a day is enough to stay happy and hydrated. But if you exercise, that number increases. The International Society of Sports Nutrition (ISSN) recommends that athletes drink an *additional* 0.5 to 2 liters (about 17 to 67 ounces) of water during exercise, 6 to 8 ounces at a time. This can send the total up to 120 ounces per day for hard-training athletes. This range, on par with the long-suggested "half your bodyweight in ounces per day," is based on how heavily an athlete sweats during exercise, which you can determine by weighing yourself pre- and postworkout. The ISSN suggests 3 cups of water (750 milliliters) for every pound of bodyweight lost through sweat.

Your body also does a good job of letting you know if you're drinking enough water. For example, clear or light-yellow urine indicates you're properly hydrated while a brown tint indicates dehydration. If your urine is dark yellow in the morning, don't panic; this is probably a result of overnight buildup in the bladder.

—Kamal Patel, MPH, Director, *Examine.com*

CARDIO BOOST

WE ♥ PROTEIN

» As if you needed another reason to devour high-protein foods, right? A new study out of the U.K.'s University of East Anglia (UEA) shows that **eating foods rich in certain amino acids can boost cardiovascular health to a similar degree as stopping smoking or getting sufficient exercise.** Seven specific aminos were analyzed in the study: arginine, cysteine, glycine, histidine, glutamic acid, leucine and tyrosine, the latter three of which are found in high-protein animal sources. The research findings showed an association between these three aminos and lower levels of arterial stiffness, which correlates with a reduced risk of coronary heart disease. As for specific high-protein sources of these beneficial amino acids, lead researcher Amy Jennings, Ph.D., cites a 75-gram steak, 100-gram salmon fillet and 500-milliliter glass (approximately 17 ounces) of skim milk as sufficient helpings. Protein is good for *all* muscles, including the most important one: your heart.



Global life expectancy at birth for human males and females as of 2013, up 6.2 years from 65.3 in 1990, with healthy life expectancy (HALE) at 62.3. HALE accounts for mortality plus the impact of nonfatal conditions, summarizing years lived with disability and years lost due to premature mortality.

Source: *The Lancet*



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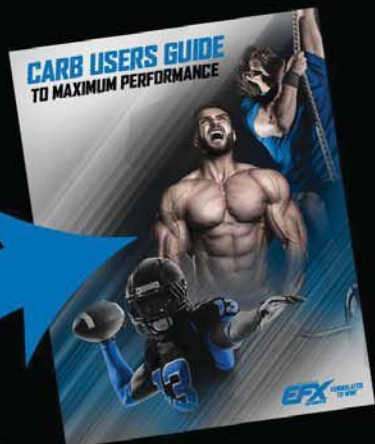
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TRAINING

BODY SHOP



GET STRONGER

RESULTS IN CLUSTERS

» Getting the most out of every rep is key to making gains in size and strength, and this is exactly why cluster sets are worth trying for anyone with lofty gym goals. Quick refresher: Clusters involve taking at least one brief rest period during a lifting set, as opposed to a traditional straight set where all reps are performed consecutively with no break.

In a study recently published in *The Journal of Strength and Conditioning Research*, researchers from Texas Christian University and George Mason University compared cluster sets to traditional sets on barbell back squats. Every common training variable was kept the same: weight used (70 percent of one-rep max), number of sets (four), number of reps per set (10), even total rest time (two minutes per set). The only difference between the cluster- and traditional-set protocols was how the rest was dispersed.

With the clusters, each set consisted of doing five reps, resting 30 seconds, doing five more reps, then resting 90 seconds before repeating. Each traditional set involved simply doing 10 reps, then resting two minutes. (Total rest time in both cases is the same.)

Even with all the common variables, **researchers found that greater power output and higher velocities were produced during cluster sets, particularly later in the sets (closer to 10 reps)**. This makes perfect sense when you consider that when doing clusters, reps six to 10 of each set are performed after 30 seconds of rest. It's sort of like taking a halftime break (or more accurately, getting a 30-second timeout) during a tough set of squats. But hey, if that makes your last five reps of each set that much stronger, it's worth trying during your next lifting session.



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QUICK FIX

INCLINE DUMBBELL PRESS

Simple solutions to widespread exercise errors.

The Flaw: Using too steep of an incline.

The Fix: A 45-degree angle on the adjustable bench should be the absolute upper limit for incline presses; any steeper and it's basically a shoulder exercise. That said, don't only stick with 45 degrees. The upper pecs will be significantly targeted at several points below that, so mix up your incline angles. Utilize all bench settings from 45 degrees all the way down to one click up from flat.

The Flaw: Pointing the elbows directly out to the sides.

The Fix: As you lower the dumbbells and press them back up, keep your upper arms at roughly 45 degrees to your torso, elbows pointed slightly forward. This will help you generate more power and also relieve unnecessary stress on the shoulder joints to help reduce injury risk.

The Flaw: Clanging the weights together at the top of each rep.

The Fix: The only thing touching the dumbbells at the top does is make noise. And no, it doesn't significantly hit the inner pecs. You're better off keeping the weights spaced a few inches apart and stopping just shy of elbow lockout to keep constant tension on the chest. If you're throwing around 120-pound dumbbells, you may have no choice but to tap them, so in that case do what you gotta do. ■

Leaving a few inches of space between the weights keeps tension where you want it: on your pecs.



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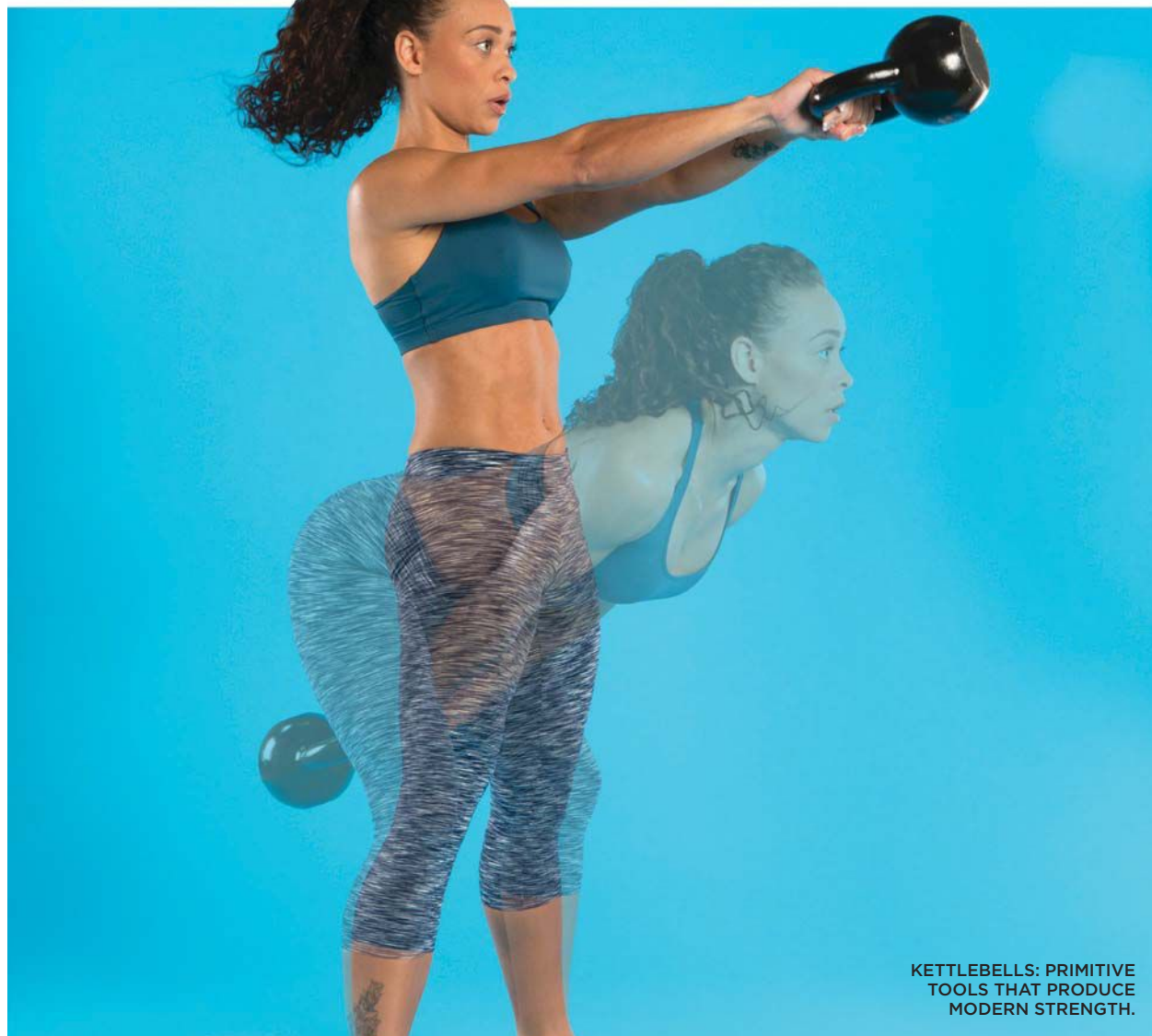
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Introduce your muscles — from traps to calves — to kettlebell training in 2016 to spark new gains in growth and strength.

BY JOE WUEBBEN

Old-school training with simple, primitive implements is becoming very popular with those who seek strength these days. In addition to barbells and dumbbells, it's not uncommon to see athletes going all caveman with heavy tires, sledges and loaded carries. But if you're looking to go more bare bones with your training, there's another tool you should be throwing around: the kettlebell, a Russian implement that has been around for hundreds of years. Talk about old school.

"Kettlebells work a wide variety of

physical attributes," says Steve Cotter, president and founder of the International Kettlebell and Fitness Federation. "You're combining strength, endurance and flexibility into one tool, so it's a very time-efficient way of training."

The following program designed by Cotter involves only four basic kettlebell moves that will train your body from traps to calves. Another bonus: Kettlebells effectively target fast-twitch muscle fibers because of the explosive nature of the exercises, which can stimulate hypertrophy.

Two-Hand Kettlebell Swing

» Stand and hold a kettlebell by its handle with both hands, feet shoulder-width apart.

» Start with your knees slightly bent, your torso leaned forward just a bit, and the kettlebell on the floor in front of you with your arms extended.

» Hinge forward at the hips while reaching back so that the kettlebell travels behind your feet and glutes, then immediately swing it forward and up in an explosive motion by extending your knees and hips to pull the weight up to head level in front of you.

» Let the kettlebell swing back down and go right into the next rep. Each set should be performed as a continuous up-and-down swinging motion with no pausing at any point. Resist the urge to swing the weight up with your arms.

One-Arm Kettlebell Clean and Jerk

» Stand with your feet shoulder-width apart straddling a kettlebell on the floor.

» Squat down and grab the handle overhand, your arm fully extended.

» Starting in a squat with your glutes down, weight on your heels, chest up and back flat, explosively extend your knees and hips so you're standing. When your body is fully extended at the hips, knees and ankles, clean the weight by pulling it up to your shoulder and flipping it outward so that your palm faces you and the bell rests on the outside of your wrist.

» Settle into a standing position, then immediately go into the jerk portion of the lift by dipping down slightly with your knees and exploding up to press the kettlebell overhead.

» At the top position, your arm is fully extended, you're standing up straight and the ball of the kettlebell is behind your hand. Carefully lower the weight back to the floor and repeat for reps, then switch arms.

Double-Kettlebell Front Squat

» Stand upright holding a kettlebell in each hand with your feet shoulder-width apart and your knees

slightly bent.

» Lift the weights in front of your shoulders so that the bells are outside your hands (with the bottoms of the kettlebells facing out to the sides) and your palms face each other. This is your start position.

» Keeping your back flat and chest out, squat down as you would normally for a front squat until your thighs are past parallel to the floor.

» Extend your knees and hips to stand back up and return to the start position, keeping the kettlebells in the same position throughout.

Hand-to-Hand Kettlebell Swing

» Stand upright, holding a kettlebell by its handle in one hand with your feet shoulder-width apart.

» Start with your knees slightly bent and the weight hanging toward the floor, arm extended. Hinge forward at the hips and reach back, just as you did in the two-hand swing (except only one hand is holding the kettlebell this time), then explosively swing the weight up by extending your knees and hips.

» When the kettlebell reaches shoulder height, quickly transfer it to the other hand before it drops back down.

» Complete the next rep with the other hand, transferring the weight back and forth between hands on every rep (rep No. 1 with your right hand, rep No. 2 with your left hand and so on). ■

TEST YOUR KETTLE

Try this routine exclusively for at least four weeks to develop efficiency with these strength-building kettlebell movements.

EXERCISE	REPS
Two-Hand Kettlebell Swing	15
One-Arm Kettlebell Clean & Jerk	10 each arm
Double-Kettlebell Front Squat	10
Hand-to-Hand Kettlebell Swing	30

Cotter recommends that relatively strong men and/or those who weigh more than 220 pounds use a 24-kilogram/53-pound kettlebell; men with moderate levels of strength and/or those who weigh less than 180 pounds should start with a 16-kilogram/35-pound kettlebell.

Perform the workout three days a week with one to two days of rest between workouts (Monday, Wednesday, Friday).



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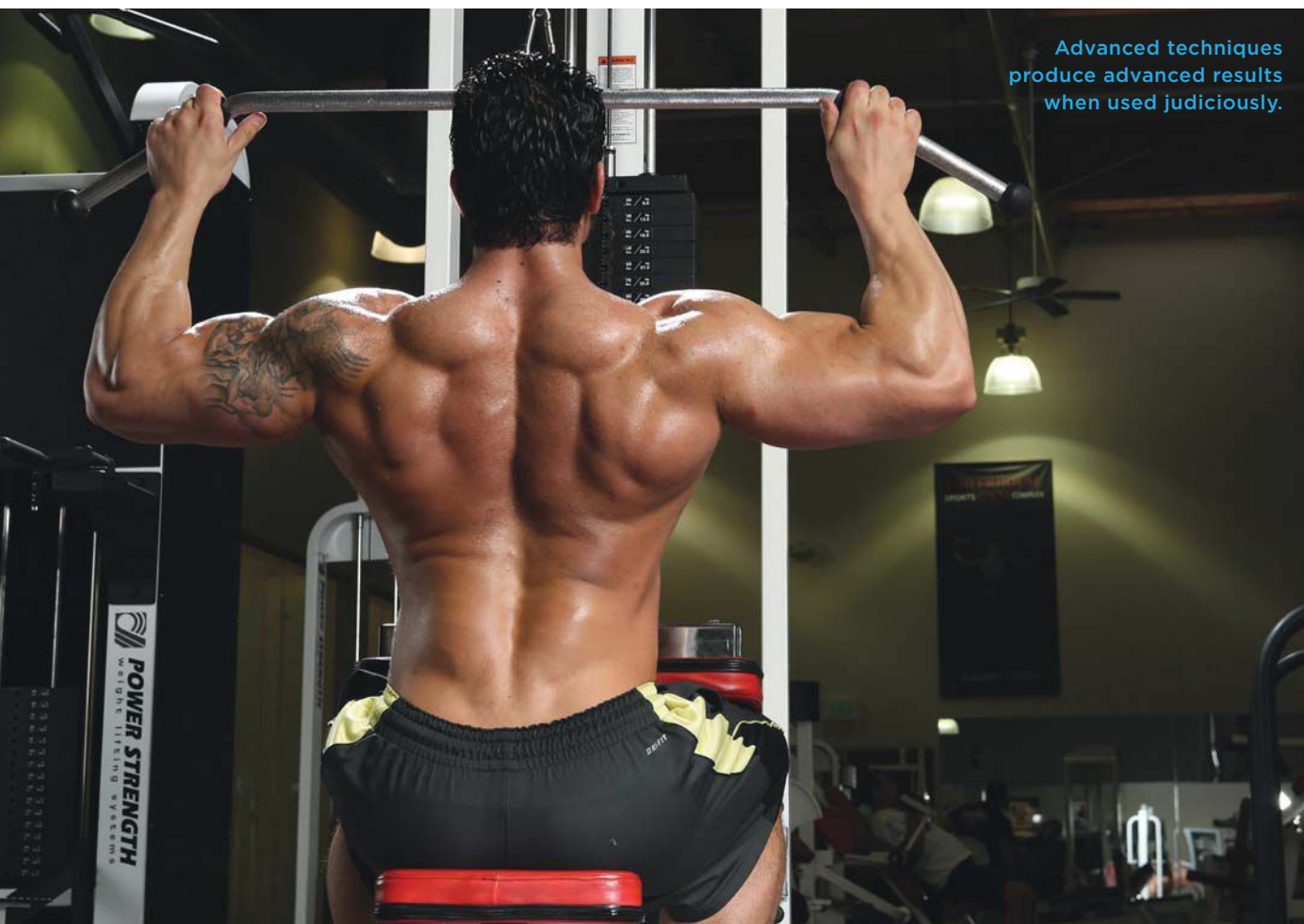
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FAILURE FACTOR

Advanced training techniques aren't just for seasoned lifters. These proven intensity boosters are for anyone who seeks high-powered growth.

BY MICHAEL BERG, NSCA-CPT

So what if you're a beginner? Physiologically, muscle is, well, muscle. Some of us have less, some have more, and we each have varied amounts of what are called fast-twitch and slow-twitch muscle fibers. But even with those differences, all muscle thrives on the challenge of being pushed beyond its limits, giving it the impetus to grow bigger and stronger to be prepared the next time it's faced with a similar load.

With that in mind, the following advanced techniques can work for you if used judiciously as part of your regular weight-training routine. If you're completely new to training with weights

you may want to stick to the basics a while longer, but if you have at least a few weeks of training under your belt, try these techniques for yourself and see what you respond to best. They're certain to make your gym time much more productive.

DROP SETS

The idea here is to push your muscles to their breaking point, then lighten the load and do it again for good measure. Start with a standard set to failure at your chosen rep range, then immediately "drop" or decrease the weight roughly 20 to 30 percent and rep again to failure.

This is simple to accomplish on a ma-

chine: Just reset the pin in the weight stack. But don't be afraid to also try it with dumbbells and barbells, especially those handy preset bars.

As with any intensity technique, you don't want to use drops on every set. But with one or two exercises within a workout, incorporating a drop (or two) can ensure that you're appropriately taxing your body and priming the pump for growth.

PARTIAL REPS

You may remember being told as a kid, "Don't do anything halfway." That otherwise well-intentioned advice doesn't apply here. In fact, even halfway might be a touch too much. That's because

the partial-reps technique involves doing repetitions from one-quarter to one-half of the full range of motion of an exercise after you've done as many full reps as you can. It's a way to ensure a muscle group has absolutely no energy left to muster.

To do it, choose a resistance that will cause you to reach muscle failure at the target rep range. Using our arm-work-

out example, on triceps pressdowns you'd stick the pin at a weight that you can't finish more than 12 reps with. But at rep No. 12, instead of just stopping the set, you continue: first doing as many half reps as you can, then "pulsing" out quarter reps until you can't move the stack anymore. You should choose your exercises wisely, of course, and use a trusted spotter when needed.

Obviously, this tactic can give you an unbelievable bout of delayed-onset muscle soreness in the days to follow. You wouldn't want to use it on every set or even in every workout because it can lead to overtraining, in which your body struggles to recover from workouts. Used prudently, however, partials are a potent weapon in the battle for more muscle. ■

DROP-SETS WORKOUT: BACK

EXERCISE	SETS	REPS
Barbell Row	5	15 (warm-up), 12, 10, 8, 6
Supported T-Bar Row	4	12, 10, 10, 8-10 ¹
Pull-Up	3	10, 10, 10
Seated Cable Row	3	10, 10, 8-10 ¹
Wide-Grip Lat Pulldown	3	10, 10, 8-10 ¹

1 On the final set, drop the weight by 20 to 30 percent, rep until failure, then drop it again and rep until you can do no more. You may drop the weight a third time for additional work.

PARTIAL-REPS WORKOUT: ARMS

EXERCISE	SETS	REPS
Close-Grip Bench Press	4	15 (warm-up), 12, 10, 8
Overhead Dumbbell Triceps Extension	3	8-12
Triceps Pressdown	3	10, 10, 10
Barbell Curl	4	15 (warm-up), 12, 10, 8
EZ-Bar Preacher Curl	3	8-12 ²
Dumbbell Concentration Curl	3	8-12 ²

2 On the last two sets, after going to full-rep failure, continue with partials — half reps and quarter reps — until you reach total muscle exhaustion.

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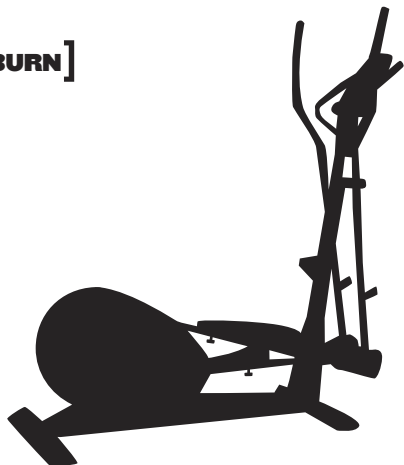
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Get your fat loss off to a running start in 2016.

5 TO 10

Looking to begin the new year by ditching a few pounds? Use these powerful cardio programs to strip body fat in eight weeks with specific plans for 5- or 10-pound losses.

BY CAREY ROSSI

Throughout this month's issue, you'll find plenty of weight training, diet and supplement tips to help you build a better physique in 2016. But we understand that this may seem a lofty and perhaps ambiguous goal and that some of you just want to begin the new year by shedding a few pounds and inches ... minus the iron. Or maybe you want to acclimate (or reacclimate) to some kind — any kind — of activity in hopes of reducing the risk of injury later. For either objective, your path starts here.

Here you'll find the tools you need to lose 5 or 10 pounds of fat with a dedicated eight-week cardio program for each. *Muscle & Performance* enlisted personal trainer and former fitness competitor Laura Mak to design cardio routines that will help you meet either goal, provided your diet and supplement regimens are on point.

PROGRAM NO. 1: You Want to Lose 5 Pounds

Five pounds doesn't necessarily seem like a lot of weight, but sometimes those first (or last) 5 pounds are the hardest to lose. For the next eight weeks, do cardio four days per week with a rest day between most workouts.

PROGRAM NO. 2: You Want to Lose 10 Pounds

Taking off a 10 note will take a bit of additional dedication. Mak suggests doing cardio five days a week — three workouts use inclines to build intensity while the other two utilize metabolism-surging intervals — for the next eight weeks.

No matter which program you choose, do your best to stick to the prescribed schedule for the full eight weeks or until you hit your goal, whichever comes first. In the new year, consistency will be your biggest ally in remaking your body. And when you hit this initial goal, you can find a new quest — hopefully with us — to take on with your lighter, leaner physique. ■

CARDIO PROGRAM NO. 1:

Days 1 and 5
30-Minute Incremental
Treadmill Program

TIME/MINUTES	SPEED	INCLINE
1-5	3.5	0
6-10	3.7	2.5
11-15	3.7	5.0
16-20	3.7	7.5
21-25	4.0	7.5
26-30	3.5	0

Days 3 and 7
30-Minute Steady-State
Elliptical Program

Mak suggests using an elliptical trainer that has moving handles.

TIME/MINUTES	SPEED
1-5	55-65 rpm
6-25	75-85 rpm
26-30	55-65 rpm

CARDIO PROGRAM NO. 2:

Days 1, 3 and 5
35-Minute Incremental
Treadmill Program

TIME/MINUTES	SPEED	INCLINE
1-5 (warm-up)	3.5	0
6-10	3.7	2.5
11-15	3.9	5.0
16-25	3.9	7.5
26-30	3.7	10.0
31-35	3.5	0

Days 2 and 4
35-Minute Interval
Elliptical Program

Mak suggests using an elliptical trainer that has moving handles. Begin by doing a five-minute warm-up followed by five interval cycles of one minute of work to four minutes of rest, then finish up with a four-minute cool-down.

TIME/MINUTES	SPEED
1-5 (warm-up)	55-65 rpm
6	80-90 rpm
7-10	65-75 rpm
11	80-90 rpm
12-15	65-75 rpm
16	80-90 rpm
17-20	65-75 rpm
21	80-90 rpm
22-25	65-75 rpm
26	80-90 rpm
27-30	65-75 rpm
31-35	55-65 rpm

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Going bare can build strength from the ground up.

THE BARE TRUTH

Want to improve your running form and get stronger in your major lifts? The secret may just lie in ditching your shoes.

BY KARLA DIAL

You've seen them on the running trails around town and at the gym: all those people wearing funky socks. (And no, we're not talking about the way they smell.) The minimalist footwear trend has caught on with runners and lifters alike, for good reason.

A large and growing body of research shows that distance runners who are used to wearing shoes have an overwhelming tendency to hit the ground with their heels first. Despite the fact that traditional running shoes are designed to provide greater cushioning and correct pronation problems, heel striking by its very nature tends to shorten the runner's stride. Moreover, it intensifies mechanical stress on the body: A study published in the journal *Nature* by Harvard University professor Daniel Lieberman shows that when distance runners remove their shoes, the peak vertical force at impact with the ground is seven times greater in heel strikers than forefoot strikers. About 75 to 80 percent of endurance runners are heel strikers.

Running barefoot or in minimalist shoes, however, removes the artificial architecture, allowing the muscles and supporting structures in the feet and lower legs to strengthen themselves. It also promotes forefoot striking, which translates stored energy in the calf and Achilles tendon into forward motion

and has only one-third the impact force of heel striking. That means greater speed and fewer repetitive stress injuries. But the benefits don't end there.

Did you really think all those photos of Arnold Schwarzenegger working out barefoot at Gold's Gym in the '60s were some kind of fluke? Golden-era bodybuilders sometimes preferred the feel of their feet against the gym floor on heavy lifts such as squats and deadlifts because they believed it built the supporting musculature of the feet, ankles and calves along with the rest of the larger muscles. This is a technique still employed by lifters today, but near-max loads should still be shoed — especially by those new to barefoot or minimalist footwear training — because of the incredible forces that come to bear on the bones of the feet. As with all things weight training, it's better to start small and work your way up.

Jon Gaffney, a former University of New Hampshire wrestler, tried on his first pair of Vibram FiveFingers (one of the first "barefoot" shoes on the market) in 2008 and hasn't looked back since. On the days he forgets to bring his FiveFingers to the gym, he'd rather work out barefoot or in socks than go back to wearing regular cross trainers. "I found my base was much more stable in my major lifts: squat, deadlift, front squat, the big compound moves," he says. "My knees weren't coming out

over my toes as much. My back and hips were more aligned, I didn't have as much pain, and I really felt I could drive through my heels more effectively on those big lifts."

Being able to grip the floor or ground with your toes — whether in minimalist shoes or none at all — gives you automatic traction. And because minimalist shoes are designed to strengthen your feet and legs naturally, almost anyone can wear them. "Some people with super-collapsed arches find they're uncomfortable," Gaffney says. "I personally have used custom orthotics for pancake-flat feet since I was in middle school, and these are more comfortable than my orthotics."

While some people like Gaffney may take to minimalist footwear right away, most people will require an adjustment period, and that goes double for heel-striking distance runners. Scientists and shoe salespeople alike recommend building up your endurance slowly when making the switch. For runners, Lieberman suggests wearing them for only 400 meters to a mile every other day for the first week, then increasing the distance by 10 percent a week as long as you have no problems. Stretch your calves and hamstrings regularly and massage your arches. "Always listen to your body," Gaffney says. "If something is hurting or uncomfortable, back off." ■

TRAIN INSANE

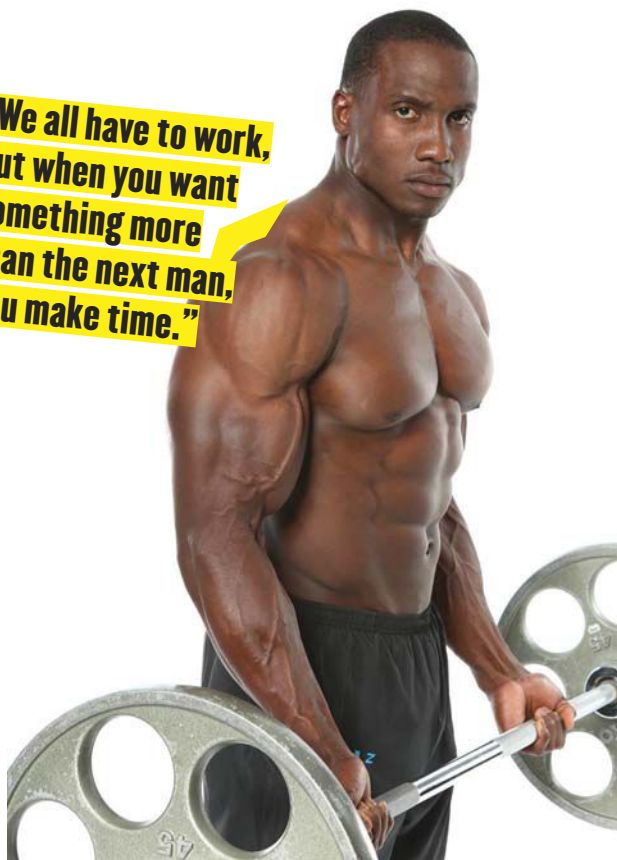
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ROBERT TIMMS

This Dymatize athlete ain't your ordinary military muscle guy.

BY JERRY KINDELA, MA, DHS

He went from 170 pounds to a spectacular 235 pounds in only 10 months. What's even more startling is that Staff Sgt. Robert Timms, a U.S. Air Force aircraft armament systems technician on the F-16 fighter jet, exploded with muscle following seven sessions of chemotherapy at Joint Base Andrews in Maryland after a diagnosis of non-Hodgkin's lymphoma in his left knee.

Timms already held a black belt in Shotokan and had participated in kickboxing and the sweet science itself, in addition to playing semi-pro football while stationed in Aviano, Italy. But when his cancer treatments concluded, a friend turned him on to weight training. Within three months he had established a solid foundation, taking off on his own road to further his training knowledge, to experiment and to grow phenomenally, all of which led inexorably toward his first competition.

He took first place in the heavyweight class of the Camp Humphreys (South Korea) Bodybuilding Championships, and it wasn't long before Dymatize added him to its roster of sponsored athletes. We checked in with this inspirational military man who, following his chemotherapy treatments, also did tours of duty in Kandahar, Afghanistan, and Kunsan, South Korea.

Yours is an inspiring story. Care to explain what your training is like?

I believe when it comes to bodybuilding, it's a relatively fundamental matter: It's all about consistency and technique. I don't do light weight nor heavy weight, I do working weight: what feels right.

It's all about knowing how your body responds, how you feel the muscles working and responding. It's also about making the time required to get what you want. We all have jobs, we all have to work, but when you want something more than the next man, you make time. It's all about priorities and time management.

How did you create the proper nutritional environment to grow like you did?

The most important thing was to ensure that my meals were a priority. I always made certain that I had the food I needed for the day, every day. Being inconsistent with your nutrition program is probably the biggest downfall for anyone trying to gain mass. Yes, everyone knows that eating is essential, but making it a priority and eating on a schedule is a whole different animal.

What supplement protocol addresses your needs for your job and your training efforts?

Dymatize ISO-100 is my go-to protein powder between meals when I'm at work. It's clean and helps me meet my protein needs. Just before bed I rely on Dymatize Elite Casein protein powder, which keeps my metabolism going throughout the night, long after a hectic day working at Luke Air Force Base in Arizona. ■

UNIQUE ARMS

In addition to utilizing a descending-sets approach in this workout, Staff Sgt. Timms notes, "I always have to have rhyme with reason with my workouts, so a typical arm workout, for example, will have a pull-push type of construction, something that works all of the muscle heads of the upper arm."

EXERCISE	SETS	REPS
Triceps Pressdown	5	15,12,10,8,8
Rope Cable Curl	5	15,12,10,8,8
Cambered-Bar Pressdown	5	15,12,10,8,8
Dumbbell Curl	5	15,12,10,8,8
Reverse-Grip Cable Pressdown	5	15,12,10,8,8
Reverse-Grip Barbell Curl	5	15,12,10,8,8

Rest 30-60 seconds between sets and exercises.

SSGT ROBERT TIMMS, U.S. AIR FORCE

Birthplace: Rochester, N.Y. **Height:** 6'1"
University: Syracuse, N.Y. **Weight:** 225 pounds
Current City: Goodyear, Arizona
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GET TO KNOW: BEAST SPORTS NUTRITION

BY JILL SCHILDHOUSE

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COMPANY MISSION Beast's mission is to help athletes at any level attain their fitness goals through education on exercise, nutrition and supplementation, as well as to provide products that are innovative, manufactured under the strictest protocols and affordable to all.

BRINGING OUT THE BEAST IN EVERYONE "Whether you are a beginner who just wants to get in shape or an elite athlete striving to be the best, Beast products are designed with you in mind," says Tony Altieri, owner and president of Beast Sports Nutrition. "Our products are innovative and multifaceted, with a core focus on quality control while maintaining affordability."

BEST OF BEAST Team Beast Elite Athlete Brandan Fokken, who makes Aminolytes and Beast Mode a regular part of his training regimen, just won his IFBB pro card in Men's Physique at the 2015 North Americans in Pittsburgh.

TESTING, 1, 2, 3 Beast understands the importance of rigorous testing procedures and quality control because of its true passion for results and customer satisfaction. The company's ingredients are routinely tested for raw material identification, microbials to detect bacteria and mold, and heavy metals including mercury and lead.

MULTIPURPOSE MANUFACTURING "What really separates Beast products from the rest is that we manufacture products to be 'multipurpose' in order to fulfill the many needs of our athletes without having to stock up on multiple products," says Altieri. "This approach is truly unique in the marketplace and has allowed us to establish ourselves as a leader in the sports-nutrition industry."

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THE STARTER'S PROGRAM

Start here. You have a goal to finally take control of your body and either a) get in great shape for the first time in your life or b) get *back* in shape after taking an extended hiatus from the gym. You have the ability and you have the desire. Perhaps the only thing missing is a starting point.

Not anymore. Start here with this eight-week training program. In five challenging but doable workouts per week, you'll address all key aspects of fitness: those that make you look, feel and perform better as well as improve your overall health.

The *Muscle & Performance* 2016 Starter's Program will satisfy the following areas:

Strength. You don't need to load up a barbell with your one-rep max (or even your five-rep max) to get stronger. Challenging sets in the six to eight rep range will increase strength levels just fine. Beginners in particular have an advantage here, as strength accumulates quickly due to neurological adaptations that occur in the first few weeks of a program.

And why exactly is getting stronger important? Because strength is important for *everything*: It goes hand in hand with building muscle, which helps you burn fat to be leaner, fitter, healthier and more attractive; it will help in any athletic endeavor you choose, from pickup basketball to running a 5K; it will help you better perform everyday activities such as toting your kids around and doing yard work; and, oh yeah, being stronger *feels* good, so it may very well help your mood and emotional state. Need more reasons to be strong? Didn't think so.

Hypertrophy (muscle building). The more muscle you have, the stronger you'll be. You'll also burn more body fat since muscle tissue is highly metabolic, meaning you'll burn more fat at rest. The eight to 10 rep range, while helping increase strength, is also the sweet spot for hypertrophy.

Functionality. The Starter's Program doesn't just consist of exercises that will make you bigger and stronger for the sake of being bigger and stronger, as is the custom with so many of the other programs you'll find on newsstands this month. Exercises such as push presses, box jumps and ball slams, as well as bodyweight moves such as dips and pull-ups, provide tremendous carryover into both the athletic arena and the real world, improving your functional fitness and appearance.

Simplicity. Getting in great shape doesn't require the knowledge or ingenuity of a multicrodientialed training guru.

Basic movements that all gym-goers are familiar with are the ones proven to elicit the best results. This program is built around free-weight, compound exercises and fundamental human movements such as squatting, pressing, rowing, jumping and running. When in doubt, keep it simple.

Conditioning. Increasing aerobic and anaerobic capacity and improving cardiovascular fitness is critical for optimizing health, performance, fat burning and even strength. This is accomplished in the Starter's Program mainly through high-intensity interval training (Day 2) — the proven best method for maximizing fat burning and performance — and circuit training (Day 5). A weekly dose of steady-state cardio (Day 4), while not as potent for fat burning, will benefit stamina and endurance.

Recovery. This program keeps volume (total number of sets performed) in check for one reason: Too much of a good thing is *not* a good thing. Breaking down muscle tissue is necessary for increasing size and strength, but totally annihilating your body on a daily basis will prove counterproductive. Muscles won't grow bigger and stronger after being broken down without sufficient recovery via ample rest. The Starter's Program workouts will be challenging and taxing without making you feel totally broken all the time. Some muscle soreness is okay; being hardly able to walk for three days after a workout is overkill.

Progression. Trainers and strength coaches don't always see eye to eye on all aspects of program design. But one thing they all agree on is the concept of *progressive overload*, which simply states that in order to see continued results, the body must be continually overloaded as it adapts to the training and gets stronger. Each workout in this program includes Progress Points that specify how and where to increase volume, intensity and load and/or vary exercise selection every two weeks.

You have the goal and the desire, and now you have the program. So what's next? You guessed it: Get started.

TRAINING SPEAK

Use this box to familiarize — or reacquaint — yourself with the terminology needed to navigate this eight-week program.

Alternating Sets: Similar to a superset (where you alternate sets of two exercises back and forth), only with rest after each exercise.

AMRAP/30 sec.: As many reps as possible in 30 seconds (pull-ups and dips on Day 5). Start a timer and begin the set, doing as many reps as you can in the timeframe and using short rest breaks as needed.

Rest: Denotes the amount of time to rest between sets, expressed in either minutes or seconds.

Superset: Two exercises performed back to back with no rest in between; rest only after completing the second exercise in the superset.

Warm-up: This portion of the workout is intended to be performed at a low intensity. Sets are to be done with light weight and *not* taken to failure. Where "light cardio" is listed, do your preferred activity (jogging, stationary bike, stair stepper, etc.).



M&P STARTER'S PROGRAM

This starter split is a balance of smart work and rest.

Day	Activity
1	Upper Body
2	High-Intensity Interval Training (HIIT)
3	Lower Body + Abs
4	Active Recovery
5	Whole Body
6-7	REST

Beginners have an advantage, as strength accumulates quickly due to neurological adaptations that occur in the first few weeks of a program.

DAY 1 (MONDAY): UPPER BODY

Warm-up: Five minutes of light cardio, 1x10 push-ups, 1x10 lat pulldowns (light)

Exercise	Sets	Reps/Distance	Rest
Dumbbell Push Press (light)	2	6	1 min.
Dumbbell Bench Press	4	8	90 sec.
-alternating sets with-			
Barbell Row	4	8	90 sec.
Standing Barbell Overhead Press	3	8	90 sec.
Dumbbell Curl	3	8-10	
-superset with-			
Triceps Pressdown	3	8-10	90 sec.
Farmer's Walk	2	50 ft.	90 sec.

Progress Points

Volume: After two weeks, add one set to every exercise. In weeks 5-8, add one exercise each for chest, back, shoulders, triceps and biceps, doing two sets of 10-12 reps in weeks 5-6 and three sets of 10-12 reps in weeks 7-8. On farmer's walks, increase distance to 75 feet in weeks 3-4, 100 feet in weeks 5-6 and 125 feet in weeks 7-8.

Intensity: With the exception of push presses, decrease rest periods every two weeks on all exercises by 15 seconds: weeks 3-4, 75 sec.; weeks 5-6, 60 sec.; weeks 7-8, 45 sec.

Load: Every two weeks, add about 10 percent more weight to at least two exercises. Make it a goal to increase weight on every exercise (even if only a small amount like 5 pounds) by the end of eight weeks.

Exercises: Consider subbing in comparable exercises for those listed every two weeks, at your discretion. Appropriate substitutions include barbell versions of dumbbell exercises and vice versa, incline presses instead of flat-bench presses, and carrying different types of implements for farmer's walks such as sandbags or other strongman equipment.

Standard barbell rows build upper-back density.



A



B



The inverted row is a challenging body-weight back-builder.

DAY 2 (TUESDAY): HIGH-INTENSITY INTERVAL TRAINING (HIIT)

Warm-up: Five to 10 minutes of light cardio

HIIT Session:
10 seconds of all-out, high-intensity work ("on") alternating with 50 seconds of rest ("off") for 10 minutes (10 total rounds), doing the cardio activity of your choice (running, treadmill, bike, rower,

jumping rope, etc.). Make sure you perform your work intervals as intensely as possible, preferably a "9" intensity level on a scale of 1-10.

Progress Points

Weeks 3-4: Do 12 HIIT rounds of 10 seconds on, 50 seconds off.

Weeks 5-6: Do 12 HIIT rounds of 15 seconds on, 45 seconds off.

Week 7-8: Do 15 HIIT rounds of 15 seconds on, 45 seconds off.

DAY 3 (WEDNESDAY): LOWER BODY + ABS

Warm-up: 2x25 jumping jacks, 1x10 bodyweight squats, 1x10 walking lunges

Exercise	Sets	Reps	Rest
Box Jump (18- to 24-inch box)	2	6	1 min.
Barbell Squat	4	8	2 min.
Dumbbell Walking Lunge	3	10 ¹	90 sec.
Hanging Knee Raise	3	10-15	1 min.
Kettlebell Swing	3	12	90 sec.

¹ Take 10 steps with each leg.

Progress Points

Volume: After two weeks, add one set to every exercise. In weeks 5-8, add one compound exercise for the lower body and one abdominal exercise, doing two sets of 10-12 reps in weeks 5-6 and three sets of 10-12 reps in weeks 7-8. On kettlebell swings, move up to 15 reps in weeks 5-6 and 20 reps in weeks 7-8, keeping the weight relatively light.

Intensity: With the exception of box jumps and knee raises, decrease rest periods every two weeks on all exercises by 15 seconds. (Box jump rest periods should stay at one minute; take knee raises down to 30 seconds.) On squats, always be mindful of proper technique; if your technique suffers or you start to feel light-headed with shorter rest, stick with 90 seconds to two minutes.

Load: Every two weeks, add about 10 percent more weight to at least two exercises. Make it a goal to increase weight on every exercise (even if only a small amount like 5 pounds) by the end of eight weeks. On box jumps, increase box height at least once in the course of eight weeks.

Exercises: Consider subbing in comparable exercises for those listed every two weeks, at your discretion. See page 43 for recommendations.



A

Old-school and still effective, a proper sit-up is a great move to master.

A

B



DAY 4 (THURSDAY): ACTIVE RECOVERY

Do some form of low-intensity activity for at least 20 minutes. The objective here is to stay active while also promoting recovery. This can be a long walk, an easy bike ride, a jog (if you're already a runner to begin with), a low-intensity steady-state session on the machine of your choice, etc.

Progress Points

Weeks 3-4: Add 10 minutes to your low-intensity activity of choice (for example, increase from 20 to 30 minutes).

Weeks 5-6: Increase to moderate-intensity cardio for 20-30 minutes, but keep it steady-state. For example, go from walking to jogging.

Weeks 7-8: Do 30-40 minutes of moderate-intensity steady-state cardio.



B

Target your lower abs — a trouble spot for most guys — with the hanging knee raise.

DAY 5 (FRIDAY): WHOLE BODY

Warm-up: Five minutes of light cardio, 1x10 push-ups, 1x10 inverted rows

Exercise	Sets	Reps	Rest
Medicine Ball Slam	2	6	—
-superset with-			
Jump Squat	2	6	1 min.
Barbell Deadlift	3	8	90 sec.
Pull-Up	3	AMRAP	90 sec.
-alternating sets with-		/30 sec.	
Chest Dip	3	AMRAP	90 sec.
		/30 sec.	
Plate Overhead Walking Lunge	3	12	90 sec.

Circuit-Training Cardio:

Exercise	Reps
Burpee	5
Goblet Squat	10
Push-Up	To failure
Inverted Row	To failure
Sit-Up	15

After completing the entire circuit, rest one minute. Complete three circuits total.

Progress Points

Volume: After two weeks, add one set to every exercise except pull-ups and dips. On pull-ups and dips, do as many reps as possible (AMRAP) in 45 seconds in weeks 5-6 and AMRAP in 60 seconds in weeks 7-8. On circuit-training cardio, complete four circuits in weeks 3-8.

Intensity: Decrease rest periods every two weeks on all exercises by 15 seconds, except on medicine ball slams and jump squats in weeks 7-8 (keep rest at 30 seconds). On circuit-training cardio, drop rest to 30-45 seconds between rounds in weeks 5-8.

Load: Every two weeks, add about 10 percent more weight to at least two exercises. Make it a goal to increase weight on every exercise (even if only a small amount like 5 pounds) by the end of eight weeks.

Exercises: Consider subbing in comparable exercises for those listed every two weeks, at your discretion. See page 43 for recommendations.



Forget the bench. How many pull-ups can you do?

The deadlift is a total-body mass-builder. Expect strength gains to come quickly.



^ Box Jump

Swing your arms back and then forward aggressively as you extend through the hips, knees and ankles to jump onto the box. Step (don't jump) down from the box after each rep. Jumps should be as explosive off the floor as possible, landing softly on top of the box.





^ **Plate Overhead Walking Lunge**

Hold a weight plate (25-45 pounds, hands grasping the sides) directly overhead with your arms fully extended while doing walking lunges. Don't rush the reps; keep your lunges under control to maintain balance and core stability.



Medicine Ball Slam

Stand holding a medicine ball with a solid, shoulder-width stance. Lift the ball over and slightly behind your head while coming up on your toes, then throw the ball down to the floor as explosively as possible. Transition to the next rep in one smooth motion, picking the ball up and getting it overhead as quickly as possible. Use a medicine ball that's heavy enough to challenge your entire body (15-25 pounds is a good start) and that won't bounce back up and hit you in the face (think leather over rubber). ■

MOVEMENT MENU

When it comes to mixing it up or making substitutions to your routine, pick from this M&P-approved list of simple, proven exercises.

Chest: Incline dumbbell press, incline bench press, chest dip

Back: Pull-up, dumbbell row, one-arm dumbbell row

Shoulders: Wide-grip upright row, seated dumbbell overhead press, seated barbell overhead press

Triceps: Triceps pressdown, lying triceps extension, dumbbell lying triceps extension

Biceps: Barbell curl, dumbbell hammer curl, barbell preacher curl

Legs: Step-up, Romanian deadlift, split squat

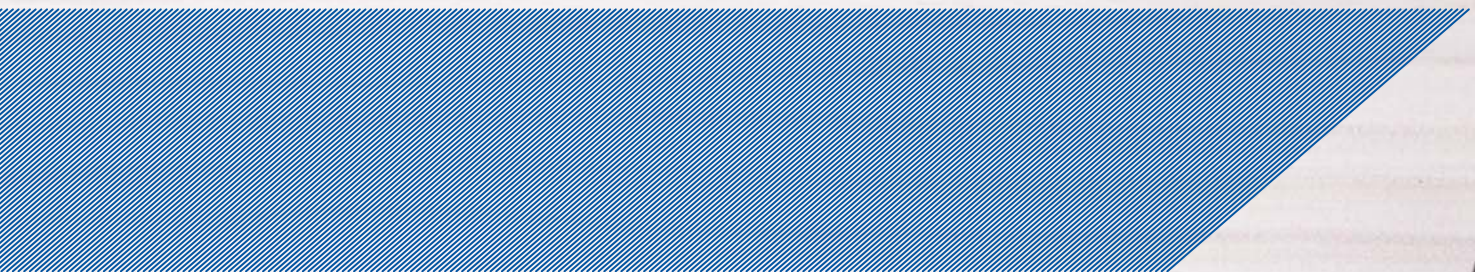
Abs: Reverse crunch, double crunch, decline crunch

For circuit training, try choosing movements that closely replicate the ones listed. Appropriate substitutions would include plyometric push-ups in place of ball slams, jumping lunges instead of jump squats and double crunches in place of sit-ups.

SUPPS BY THE SECOND

Whether you're looking to build muscle or shed fat in 2016, this daylong supplement schedule will help ensure that you reach your goals faster.

By Team M&P





SUPPLEMENT companies put a lot of work into creating their products. Think of all that research and development, making sure the ingredients are sourced from the best possible manufacturers, and ensuring the compound tastes great and behaves in the body the way it's supposed to. Some products spend years in development before they're finally released into the market.

But if there's a weak link in that chain, it's you, the consumer. You may not have a degree in sports nutrition, and you may not have the time — or the inclination — to do all the research necessary to ensure you're taking the exact dose at the exact time so that supplement does its best for your body. But how and when you take your supplements can determine their overall effectiveness. So whether you're looking to add some lean beef to your bones or simply get a little leaner, use our clock-guided outline to start seeing results faster.

UPON WAKING

It's morning. You've just cursed your alarm clock and grudgingly thrown your comforter aside, but before you go scrub the stink off your teeth, you'll want to knock down some protein and glutamine. When you wake up, your body has effectively been fasting for hours, running on stored sugars to, you know, keep you alive and stuff. Unfortunately, after a while, all that fasting puts lean muscle tissue at risk. Because you don't want to waste any more time waiting for your body to digest whole-food sources of protein, down 40 grams of whey protein to prevent any further muscle wasting. Adding 5 to 10 grams of branched-chain amino acids (BCAAs) will help stop catabolism and turn on muscle protein synthesis to switch your muscles over to an anabolic state.

Also consider eating 20 to 40 grams of whole-food carbs at this time. Fruit is a good option because it will get to the liver and essentially tell the body that it no longer needs to burn up protein for fuel. Males should add 2 grams of carnitine, which has been found to boost the number of testosterone receptors in muscles. Because your test levels are maxed when you wake up, this ensures that testosterone will go to muscle building while you also have ample aminos going to your muscles. And regardless of gender, carnitine can help encourage fat burning. If your primary goal is fat loss, you can reduce the whey to 20 grams and add 500 milligrams of green tea extract and 200 milligrams of caffeine to further boost fat loss. Also consider adding 2 to 10 milligrams of yohimbine at this time.

Gain Mass		Get Lean	
Supplement	Dose	Supplement	Dose
Whey Protein	40 g	Whey Protein	20 g
BCAAs	5-10 g	Green Tea Extract	500 mg
Carnitine	2 g	Caffeine	200 mg
		Yohimbine	2-10 mg

BREAKFAST

After getting yourself ready to start your day, it's time to chow down on some whole foods: protein, slow-digesting carbs and healthy fats. But this is also the time you'll want to knock back all your vitamins, which are better absorbed when taken with food and are crucial for improving overall health and keeping you in the gym. Tossing in 10 grams of glutamine helps increase your body's ability to preserve muscle while also giving you a top-o'-the-morning immunity boost. If fat loss is your major goal, add CLA at this time to further enhance muscle and strength gains.

Gain Mass		Get Lean	
Supplement	Dose	Supplement	Dose
Multivitamin	as directed	Multivitamin	as directed
B Complex	50-100 mg	B Complex	50-100 mg
Vitamin C	1 g	Vitamin C	1 g
Vitamin D	1,000-2,000 IU	Vitamin D	1,000-2,000 IU
Fish Oil	2-3 g	Fish Oil	2-3 g
CoQ10	300 mg	CoQ10	100 mg
		CLA	2-3 g

MIDMORNING

If you're trying to add mass or burn more body fat, you need a small, protein-rich meal at this time to keep your growth (or fat loss) on track. Protein consumption also increases satiety, keeping you full enough to ignore the vending machine and break-room doughnut cache.

Gain Mass		Get Lean	
Supplement	Dose	Supplement	Dose
Whey Protein	20-40 g	Whey Protein	20-40 g

HARDCORE THERMO GENIC

NEW Xenadrine Core™ unleashes a unique, dynamic and powerfully potent ingredient combination that will set a new standard for what a hardcore thermogenic should be. The iconic brand that provides real results is ready to revolutionize the game, again.

“I’ve taken thermo pills before, but have never come across anything this potent.”

– **yova1**, ACTUAL USER REVIEW FROM XENADRINE.COM
Received product as a free sample

THE FUTURE OF THERMOGENICS

Sought-after ingredients **gotu kola**, **perilla seed**, **yohimbe bark** and **forskolin** unleash an exhilarating sensation designed for your most hardcore demands. You’ll feel a surge from the very first serving!

UNRIVALED SENSORY & ENERGY

Feel the supercharged rush coursing through your body after the very first dose. This sensory surging formula is enhanced with caffeine anhydrous to provide unmatched intensity and energy.

POWERFUL WEIGHT LOSS RESULTS

Get ready for real hardcore results. Backed by two scientific studies including one published in the prestigious journal *Phytothérapie*, Xenadrine Core™ includes a key weight loss ingredient that helped test subjects lose 10.9 lbs. in 60 days with a low-calorie diet.¹

SCIENTIFICALLY RESEARCHED KEY WEIGHT LOSS INGREDIENT



¹Average weight loss with the key ingredient (200mg green coffee) in Xenadrine Core™ was 10.9 lbs. vs. 5.4 lbs. in a 60-day study with a low-calorie diet, and 3.7 lbs. vs. 1.25 lbs. in a separate 8-week study with a calorie-reduced diet and moderate exercise.



PREWORKOUT

Your supplements can boost the effectiveness of your workouts, so taking them at the right time and in the right quantities can absolutely have an impact on how good you can look. Whey, creatine, citrulline, beta-alanine and caffeine are must-haves before hitting the gym because they collectively affect your strength, stamina, energy levels and fat-burning capacity. But timing is everything here, and you need to know what to take and when. Essentially, you want two preworkout meals.

Preworkout 1 should be taken 45 to 60 minutes before you start training and should include citrulline — or another nitric-oxide booster like arginine — as well as caffeine. Citrulline converts to arginine in the body and is better absorbed by the intestines, which makes it a better first option. Caffeine peaks about an hour after it's taken, so working out too soon after ingesting it will limit its ability to boost strength and endurance as you train. While caffeine will also enhance fat burning during the workout, add a dose of green tea and yohimbine to seriously turn up the burn.

Gain Mass

Supplement	Dose
Citrulline	3-6 g
Caffeine	200-400 mg

Get Lean

Supplement	Dose
Citrulline	3-6 g
Caffeine	200-400 mg
Green Tea Extract	500 mg
Yohimbine	2-10 mg

Preworkout 2 should come about 30 minutes after Preworkout 1 and 30 minutes or less before you start training, and the prescription is the same for both camps. Here is where you want 20 grams of whey, which will be used by muscles as an energy source during the workout and will start you on the road to recovery early. Add 5 to 10 grams of BCAAs to aid muscle recovery, prevent muscle breakdown, provide more energy to muscles and prevent fatigue. Those looking to get lean get an extra benefit from carnitine at this time because it helps to shuttle fat into mitochondria, where it can be burned as fuel. Beta-alanine, known mainly for its ability to help boost muscle strength and power, also aids in fat burning by delaying fatigue, allowing you to get more calorie-scorching reps per workout.

Gain Mass/Get Lean

Supplement	Dose
Whey Protein	20 g
BCAAs	5 g
Creatine	2-5 g
Beta-Alanine	2-3 g
Carnitine	2-3 g*

* For get-lean lifters only

Caffeine peaks about an hour after it's taken, so working out too soon after ingesting it will limit its ability to boost strength and endurance as you train.



**MORE
BCAAs
THAN
25G OF
WHEY
PROTEIN***

*and far more
REFRESHING.*





POSTWORKOUT

Growth is essentially a side effect of recovery, which happens while you're at home resting, eating and sleeping. Customarily, recovery begins with whey protein. Right after a workout, protein synthesis (read: muscle growth and repair) is at its highest. Fast-digesting whey supplies your muscles with all the amino acids they need to rebuild. And even though casein digests slowly, research has found that adding it to whey after workouts further promotes muscle growth.

Glutamine augments this process by reducing the total amount of muscle breakdown and increasing blood levels of growth hormone, while creatine replenishes explosive energy stores. Citrulline boosts blood flow — thereby assisting in the delivery of nutrients, oxygen and hormones to starving muscles — and BCAAs promote protein synthesis and can decrease delayed-onset muscle soreness. Each of these supps has its place postworkout, whether you're looking to beef up or lean down.

Gain Mass/Get Lean

Supplement	Dose
Whey Protein	20 g
Casein Protein	20 g
Glutamine	5-10 g
Citrulline	3-6 g
Creatine	2-5 g
Beta-Alanine	2-3 g
BCAAs	5-10 g

DINNERTIME

It may seem that you have enough nutrients sitting on your plate to keep your body changing for the better, but there are a few things you can add to boost health and recovery. Ideally, you should take a hit of vitamin C with 2 to 3 grams of fish oil, both of which are better absorbed with food. Vitamin C helps with the synthesis of hormones, while fish oil further reduces muscle breakdown and supports the joints that you just put through the wringer at the gym. Those who want to aid fat loss while promoting gains in muscle and strength should also take a dose of CLA.

Gain Mass

Supplement	Dose
Vitamin C	1 g
Fish Oil	2-3 g

Get Lean

Supplement	Dose
Vitamin C	1 g
Fish Oil	2-3 g
CLA	2-3 g

30 TO 60 MINUTES BEFORE BED

The evening hours are meant for couching, which should be a word, and DVRing, which in our opinion is a way of life. But the job of building a better physique doesn't end when you clear the dinner table. As those looking to add mass prepare for bed, it's a good time to boost blood flow with an additional 3 to 6 grams of citrulline. This helps further increase growth-hormone levels, which are naturally higher as you sleep. Just make sure you take a dose that's free of stimulants so as not to interfere with your z's. Taking ZMA at this time can also boost your overnight hormone parade.

Gain Mass

Supplement	Dose
Citrulline	3-6 g
ZMA	as directed (zinc: 30 mg, magnesium: 450 mg, vitamin B6: 11 mg)

AT BEDTIME

This is your final act. As you reach to the nightstand to turn off the light, make a pit stop at your shaker. By having a serving of micellar casein (the slowest-digesting type) before you hit the pillow, you stave off the breakdown of muscle for fuel as you sleep. If you're trying to gain size, aim for 40 grams. If you're just looking to lean up a bit, 20 grams will suffice. Also consider a dose of fish oil and, for those trying to get lean, another dose of CLA, which has been shown to enhance fat burning and better preserve muscle while you sleep.

Gain Mass

Supplement	Dose
Micellar Casein	40 g
Fish Oil	2-3 g

Get Lean

Supplement	Dose
Micellar Casein	20 g
Fish Oil	2-3 g
CLA	2-3 g

The right cocktail of supplements at bedtime ensures that growth and repair continue while you snooze.



SUPPLEMENT QUICK FACTS

Here's your quick-consult guide to the benefits of key supps.

WHEY PROTEIN

- high in BCAAs, high biological value and very fast digesting
- provides muscles with a quick, readily available source of amino acids
- hydrolysate is faster digesting than whey concentrate or isolate
- ideal for early morning, preworkout and postworkout

CASEIN PROTEIN

- digests slowly to provide muscles with a slow trickle of amino acids
- micellar casein digests slower than caseinates (sodium caseinate, calcium caseinate)
- ideal for postworkout, bedtime or long gaps between meals

BCAAs

- composed of leucine, isoleucine and valine
- aids in the manufacture, maintenance and repair of muscle tissue
- stimulates protein synthesis
- provides energy during workouts
- blunts cortisol and reduces muscle soreness
- blunts fatigue during workouts

CAFFEINE

- increases the release of fat for fuel during exercise
- boosts strength instantly
- delays time to fatigue
- improves mental focus

CARNITINE

- aids the transport of fats into mitochondria where it can be burned as fuel
- improves fat loss with exercise and low-carb dieting
- can contribute to muscle growth by boosting NO levels and the level of androgen receptors in muscle

CREATINE

- boosts strength by supplying muscles with more explosive energy
- taken postworkout, increases insulinlike growth factor-1 (IGF-1)
- provides antioxidant benefits, reduces chronic fatigue, boosts brain and heart health

GREEN TEA EXTRACT

- contains EGCG, or epigallocatechin gallate, which inhibits an enzyme that breaks down norepinephrine, the neurotransmitter involved in regulating metabolism and fat burning
- reduces the risk of some cancers and aids in joint health

GLUTAMINE

- aids muscle growth by increasing levels of leucine
- decreases muscle breakdown
- boosts immune function
- increases growth-hormone levels
- can increase calories and fat burned during exercise

ARGININE

- enhances nitric-oxide production in the body
- boosts blood flow to muscles to optimize delivery of nutrients, hormones and oxygen
- can significantly raise growth-hormone levels
- promotes greater fat loss and gains in muscle

BETA-ALANINE

- forms carnosine in the body
- delays time to exhaustion by buffering hydrogen ions during exercise
- boosts strength and endurance
- paired with creatine supplementation, can increase lean mass and reduce body fat

CITRULLINE

- converts into arginine in the body, which then converts to nitric oxide
- boosts blood flow and therefore nutrient delivery to muscles and organs
- can aid in energy levels and force production

MULTIVITAMIN

- reduces possibility of nutritional deficiencies that can arise from hard training

FISH OIL

- contains omega-3 fatty acids
- helps prevent muscle breakdown
- encourages fat loss
- reduces risk of heart disease and stroke
- boosts immune and brain function

CoQ10 (COENZYME Q10)

- neutralizes free radicals created during exercise
- helps convert carbs and fat into energy
- increases endurance

B-COMPLEX

- aids in metabolism
- helps produce energy

VITAMIN C

- improves the synthesis of hormones like GH
- fights free radicals created during exercise
- can enhance nitric-oxide levels and enhance fat loss

ZMA

- combines zinc, magnesium aspartate and vitamin B6
- increases testosterone and IGF-1
- enhances sleep quality ■

BODYTECH®

WHEN IT COMES TO GETTING THE MOST OUT OF YOUR PROTEIN... IT'S ABOUT TIME.

INTRODUCING BodyTech® Hexatein-SR™,
a combination, staged-release protein ideal for anytime:
pre/post workout, morning & night.

Hexatein-SR™ is formulated with 21g of 6 different proteins, including whey isolate, egg white and micellar casein, to provide a fast, medium and slow release of muscle building amino acids. Packed with flavor, this premium blend of high quality protein helps create the anabolic environment needed to promote muscle growth and recovery.



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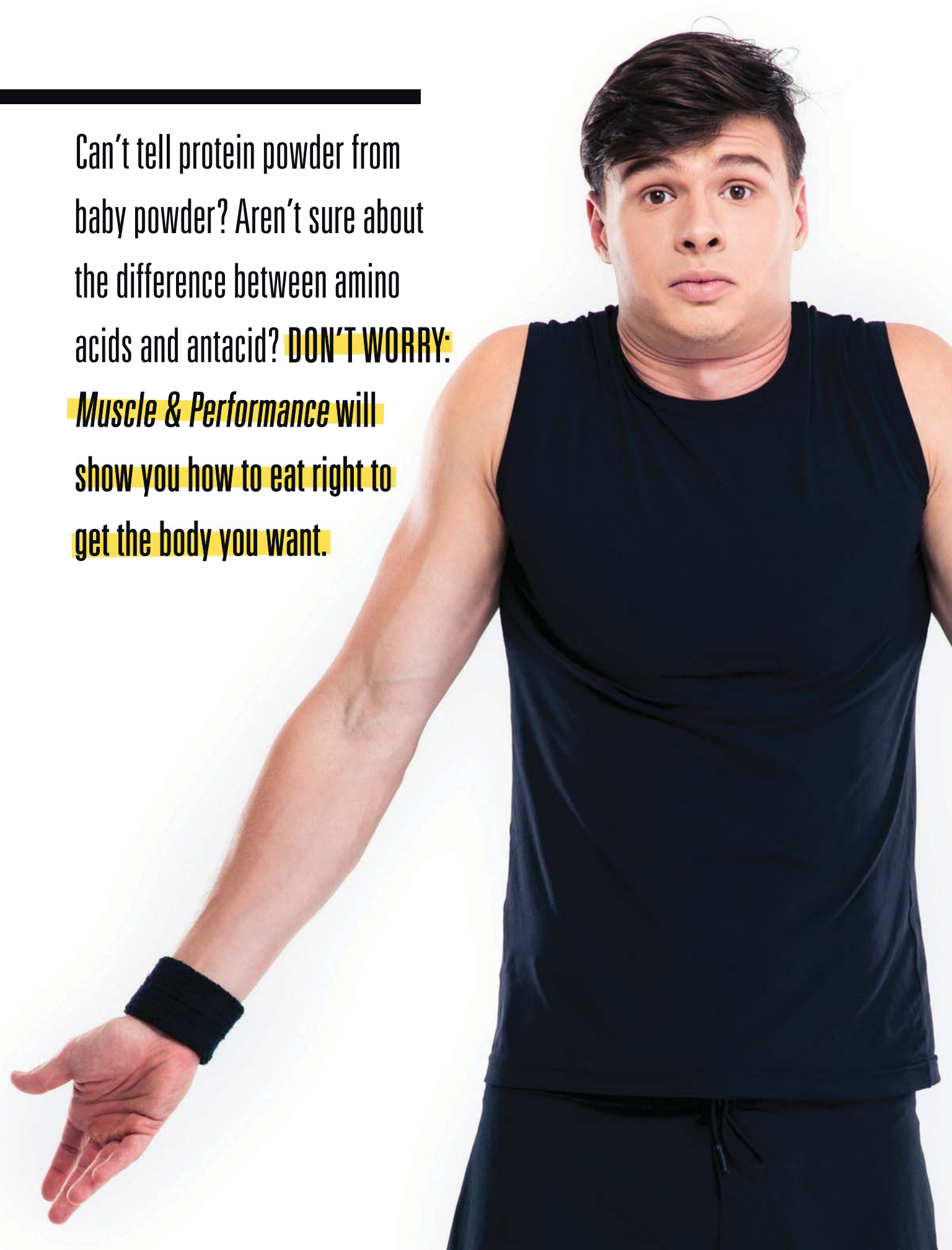
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Can't tell protein powder from baby powder? Aren't sure about the difference between amino acids and antacid? **DON'T WORRY:**

Muscle & Performance will show you how to eat right to get the body you want.





THE NEWBIE DIET

BY JON FINKEL

T ALL STARTS WITH THE FIRST BITE. JUST AS ARNOLD SCHWARZENEGGER'S ROAD TO THE MR. OLYMPIA TITLE BEGAN WITH HIS FIRST REP AND SIR EDMUND HILLARY'S CLIMBING OF MOUNT EVEREST BEGAN WITH HIS FIRST STEP, YOUR NEW DIET WILL BEGIN WITH A SINGLE CHEW.

And like those first reps and steps, your first chew will be followed by thousands more, each one of equal importance as you feed your muscles the fuel they need to build the physique you want. The key, then, is to make every bite count.

"The top diet mistake that I see athletes make when it comes to gaining muscle is they immediately eliminate fats and overdose on protein," says Pete Bommarito, the president and director of Bommarito Performance Systems (bommaritoperformance.com) in southern Florida. He has trained hundreds of top NFL, NBA, NHL and MLB players, including more than 50 NFL first-round picks and more than 50 NFL Pro Bowlers. "When you want to gain muscle, there are fats that are beneficial and fats that aren't. And there's only so much protein that your body can consume, process and utilize in one sitting," he explains.

Yes, you're often surrounded by foods containing fats that aren't good for you, and yes, protein does build muscle, but completely eliminating the former while endlessly shoveling the latter down your throat is akin to taking a chainsaw to your diet when all you really need is a steak knife.



A PROTEIN PRIMER

"The main factor in protein consumption is not necessarily how much protein you consume but when you consume it," Bommarito notes. "People think that if they lift weights, they need an influx of protein all day. That's simply not true. The timing of the protein is what's important."

So is there a timing window that's more crucial than others? "Immediately after you're done exercising," Bommarito says. "When your workout is over, you want an infusion of proteins with some complex sugars. It's all about getting the nutrients to your muscles at the right time." He recommends a postworkout protein shake with at least 20 grams of quality whey protein isolate — which digests rapidly in the body — with branched-chain amino acids to saturate your muscles with the building blocks they need in the wake of a rep-riddled beatdown.

Of course, you also want to eat a healthy portion of protein with each meal — 30 grams seems to be the optimal number, according to the research — from a clean source of protein such as fish, tuna, turkey or chicken. When you're training to gain muscle mass, three meals a day will do, so long as you approach your 30 grams of protein per feeding.

The old mainstay of eating five to six smaller meals throughout the day is fine, too, but you must keep an eye on your daily total protein intake, which should be 1 to 1.5 grams per pound of bodyweight. That means a 180-pound athlete should consume anywhere from 180 to 270 grams per day. Aim for the low end and adjust up from there, if needed, based on your body's rate of muscle gain.



1-1.5

Your daily protein target, in grams per pound of bodyweight



Your daily fat target, in grams per pound of bodyweight



FAT FACTS

Since the foods most commonly associated with obesity are also heavy in fat (fast food, potato chips, ice cream, etc.), fat itself has earned a bad reputation. But saying that all fats are bad is grossly unfair to the fats that are essential for muscle growth. So if you're going to bad-mouth fat, at least slander only trans fats and saturated fats, and even then make sure to tread lightly.

Trans fats are what you usually find in fried, processed and packaged foods, while saturated fats are found in meat, dairy and eggs. These are the "bad" fats correlated with high cholesterol, heart disease and weight gain. Even so, saturated fats do have some value to active males because they help keep testosterone levels where they need to be.

"Good" fats are called unsaturated and monounsaturated fats. They're found in raw nuts, avocados, olive oil and salmon. They're important because they aid nutrient absorption, which is extremely beneficial to your muscles if you want them to grow. They also bolster joint and brain health and can help increase fat burning.

"I'm constantly telling my athletes to increase their intake of good fats," Bommarito says. "In just 1 ounce of raw almonds or cashews, you're going to get well over 200 calories and around 15 grams of protein, which is what you need to build muscle."

Other sources of good fats are pure virgin olive oil and organic, all-natural nut butter. "I'd say the No. 1 thing I go through when I'm training my guys is getting them to have a constant influx

of good fats," Bommarito continues. "After that, it's getting them to watch their high-glycemic carb index."

Because fats have a higher caloric density than the other two macronutrients — 9 calories per gram versus 4 calories per gram for carbs and protein — it's a good idea to consume fat with discretion. Generally, 0.5 gram per pound of bodyweight per day is a good target; as always, you can adjust up or down from there.



CARBS COUNT

While protein and good fats build muscle, you still need energy to burn while you work out. That's where carbohydrates come in. In the body, carbs are broken down into simple sugars that your body then uses as its primary source of energy. Just like there are "good" fats and "bad" fats, there are also "good" carbs and "bad" carbs.

Sadly, bad carbs are the most common and abundant on store shelves, and they're what you want to stay away from when you're trying to gain clean muscle while keeping unwanted body

fat far, far away. (One exception is post-workout, when you want quick-acting carbs along with your protein to kick-start recovery.) Enriched pasta, white potatoes, processed white rice, cereals, granola and white bread are all considered bad carbs because they raise blood sugar levels rapidly and invite wild surges of insulin that can convince your body it needs to store an extra "layer" for survival. "Basically, anything that's processed or enriched, you should stay away from," Bommarito advises.

Good carbs include fiber- and nutrient-rich foods such as long-grain brown rice, whole-wheat pasta, sweet potatoes, red-skin potatoes and whole-wheat bread. "When you're trying to gain muscle, you want to have a much higher percentage of good carbs in your diet," Bommarito says. "These carbs will give you the long-lasting energy you need to exercise."

Those looking to gain muscle while staying relatively lean tend to make the mistake of under-indulging in carbs, which can leave them with an apocalyptic, "walker-like" swagger in the gym. Such subpar workouts will produce subpar gains. Aiming for 1.5 to 2 grams per pound of bodyweight per day, then adjusting up or down based on energy levels and body composition, is a good newbie strategy.

ONE MORE BITE

In the end, getting bigger and stronger comes down to this: You must feed your muscles not only the optimal fuel to maintain high energy levels for better workouts but also the necessary building blocks for recovery after those training sessions. With these nutrition and supplement guidelines, you have the information you need to succeed on both fronts. Are you ready to conquer your personal version of Everest?



Your daily carbohydrate target, in grams per pound of bodyweight



5

(MORE)
MUSCLE-
BUILDING
RULES

► Never drastically reduce, eliminate or over-indulge with any macro-nutrient. Protein, carbs and fat all have a place in your muscle-building diet and should be eaten in relative balance, with a slightly higher calorie count from protein.

► Drink plenty of water to keep your muscles, brain and organs hydrated. Aim for half of your bodyweight in ounces per day. Falling just short or going just over is fine.

► Choose good fats over bad fats and good carbs over bad carbs whenever possible.

► Limit or eliminate from your diet any foods whose labels list "enriched" ingredients.

► Develop a solid supplement plan to augment your diet. For some ideas, turn to page 44.

The following sample diets are meant to give you a quick-look blueprint at how to construct your own beginner's diet. It's important not to obsess over the gram-for-gram guidelines but rather build your dietary acumen through practice. The following takes the math out of the equation and presents what a solid day of chow should look like, with the calories and macros all balanced and accounted for.

SAMPLE TRAINING DAY DIET

■ **Breakfast**

½ cup egg whites + 2 whole eggs
1 cup oatmeal
Fresh fruit (your choice)
¼ avocado

■ **Snack**

1 apple (sliced) with peanut butter

■ **Lunch**

6-8 ounces chicken breast
Mixed green salad with olive oil or balsamic vinegar dressing, or fresh fruit
1 medium to large sweet potato

■ **Preworkout Drink**

Protein/carbohydrate drink containing a creatine/ amino acid mix

■ **Postworkout Drink**

Protein shake: 16 ounces skim milk + 1 scoop whey protein

■ **Dinner**

8 ounces salmon
1 cup brown rice
Mixed green salad with olive oil or balsamic vinegar dressing

■ **Bedtime Snack**

Protein shake with 20 grams whey or casein protein powder

SAMPLE OFF-DAY DIET

■ **Breakfast**

½ cup egg whites and 2 whole eggs
1 cup oatmeal
Fresh fruit (your choice)
¼ avocado

■ **Snack**

Protein or MRP (meal replacement) bar

Lunch

■ Tuna wrap on a whole-wheat tortilla

■ **Afternoon Snack**

Protein shake: 16 ounces skim milk + 1 scoop whey protein

■ **Dinner**

8 ounces chicken
1 medium to large sweet potato
Mixed green salad with olive oil or balsamic vinegar dressing

■ **Bedtime Snack**

1 banana + 2-3 spoonfuls peanut butter ■

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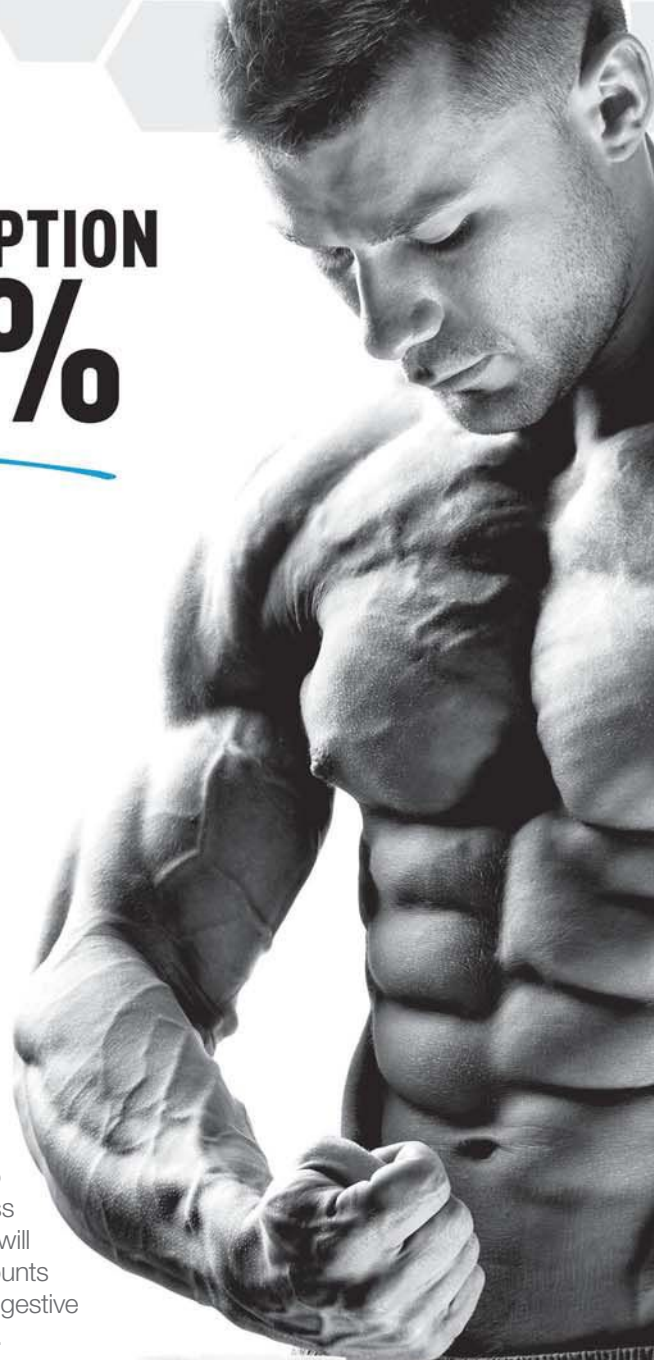


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Percentage of Whey Hydrolyzed to Muscle-Building Form

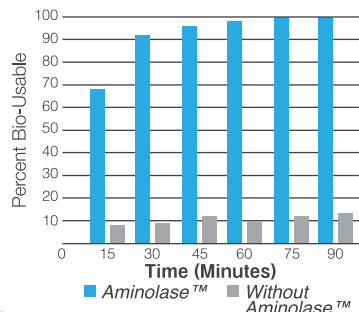


Figure 01

Stomach Discomfort After Protein Ingestion

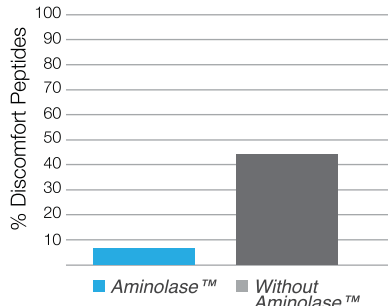


Figure 02



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THERMO HEAT

Incinerate fat all day long with this comprehensive, day-and-night fat-burning stack from Advanced Molecular Labs.

If you want to burn fat, chances are you've come across a wealth of advice telling you to restrict calories and follow a rigorous exercise program. However, most fat-burning plans encourage extensive cardiovascular work, which can result in the loss of lean body mass. Some tightening up of your diet and adding some cardio are smart solutions, but don't forget the third essential part of the puzzle: supplementation.

A REVOLUTIONARY NEW UNDERSTANDING OF FAT BURNING

Advanced Molecular Labs recognizes the need for a new and innovative approach to fat burning, and that's where BAT (brown adipose tissue) thermogenesis comes in. Adipose tissue, or fat, in the human body falls into two categories: white and brown. Brown fat is known to produce heat by vigorously

burning fat, a process known as BAT thermogenesis. All cells can produce some heat from thermogenesis, especially when body temperature drops, but BAT cells are unique in just how effectively they burn fat. In white fat cells, the energy produced from burning fat is used in the production of cell energy. Brown fat cells, however, contain just the right proteins to unlink fat burning from energy production, meaning that as they burn fat, they produce heat instead.

BAT is stimulated to produce heat in response to a drop in body temperature. This triggers TRPV (transient receptor potential, vanilloid), a receptor molecule in the brain, which then triggers BAT thermogenesis. Staying cold for hours isn't practical, which prompted Advanced Molecular Labs to ask one very important question: How else can we trigger BAT thermogenesis?

DAYTIME FAT BURNING

Enter Thermo Heat, a fat burner that will set the nutritional supplement world on fire. Thermo Heat brings together a formidable blend of fat-eradicating compounds — including the spices capsaicin, piperine and ginger, plus tyrosine, caffeine, ursolic acid, synephrine, polyphenols (such as kaempferol, curcumin and oleuropein) and bile acids — carefully designed to crank up thermogenesis. Fat burning is more effective than ever, reducing the need for muscle-depleting cardiovascular exercise and calorie-restricted diets. The result? A greater capacity to maintain lean body mass.

NIGHTTIME FAT BURNING

We've all had nights where we just couldn't fall asleep, lying awake while the anxiety builds over how we'll face the next day running on two cylinders. We're much healthier and happier and can more easily handle our busy schedules when we've had enough sleep. Fortunately, there's an easy fix from Thermo Heat Nighttime, a unique, soothing blend of natural substances that will ease your mind and soothe your body so you can get to sleep.

There's nothing in Thermo Heat Nighttime that isn't already in your body, it's just a better mix so you can relax and get some rest. The formula has no side effects and isn't addictive. Plus, when you wake up the next morning you'll be ready to take on the day's challenges without any grogginess. That's why Thermo Heat Nighttime is your best bet to beat the sleep-deprived blues.

Not only does Thermo Heat Nighttime promote a restful night's sleep, but it also helps burn fat by activating BAT thermogenesis without sleep-interrupting stimulants, using the same revolutionary principle as Thermo Heat. By maintaining an elevated level of thermogenic fat burning throughout the night, Thermo Heat Nighttime can help you torch fat while sleeping restfully.

For best results, Thermo Heat and Thermo Heat Nighttime should be taken together. Whether you want to maintain lean body mass while losing fat or get a good night's sleep and drop some pounds at the same time, these revolutionary formulas from Advanced Molecular Labs are your all-natural keys to optimal health. ■

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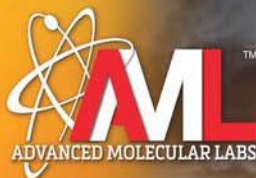
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- › HELPS MANAGE APPETITE*
- › ENHANCES ENERGY & MENTAL ALERTNESS*

NIGHTTIME FORMULA

- › BOOSTS METABOLISM*
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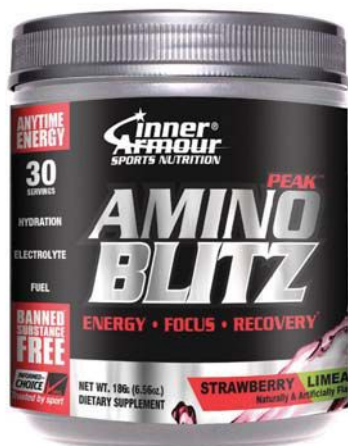
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SUPPLEMENT MAKEOVER

Here's your definitive list of must-haves for your 2016 supplement shopping list.



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Amino Blitz Peak is formulated to enhance and sustain energy, dialing up focus with caffeine and green tea while coconut water powder delivers naturally occurring electrolytes to help maintain and replenish nutrients lost during exercise. This energizing amino matrix also provides an exact 4:1:1 ratio of the BCAAs — leucine, isoleucine and valine — to activate and maintain muscle building.

ADVANCED MOLECULAR LABS PREWORKOUT >

Peworkout is formulated with a unique, synergistic blend of scientifically researched compounds designed to increase energy, strength, power and endurance so you can push your body to the limit for longer periods of time. It activates the perfect blend of neurotransmitters to boost your mood, motivation, mental alertness and focus so you can train with the utmost intensity and resilience.



< OLYMPIAN LABS E-FORCE

E-Force is a sustained-release pre-workout that provides two different phases of efficacy. The first hit comes 20 minutes after ingestion to help you get off to a strong start with your training. The second hit arrives 20 minutes later, allowing you to surge through the rest of your sets and reps. E-Force contains no fillers, allergens or artificial ingredients.

BEAST SPORTS NUTRITION CREATURE >

Creature is a professional-strength creatine complex that uses four of the most advanced forms available to fuel muscle growth, increase strength and accelerate recovery. Creatine is used in both intense weight training and endurance activities, helping you to push harder, go faster and recover more quickly. Creature is a core part of any training program to keep you fit and strong.



< MUSCLETECH

MISSION1 CLEAN PROTEIN BARS

All-new Mission1 Clean Protein Bars from MuscleTech feature clean, premium ingredients to help you tackle all of your life's missions. Made with 100 percent protein isolates and sweetened with stevia, Mission1 bars deliver up to 21 grams of superior protein and 20 grams of fiber, with absolutely zero sugar alcohols or artificial flavors.

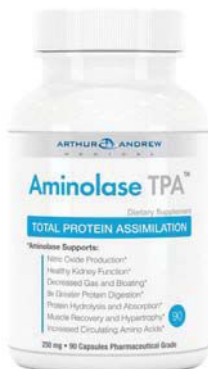
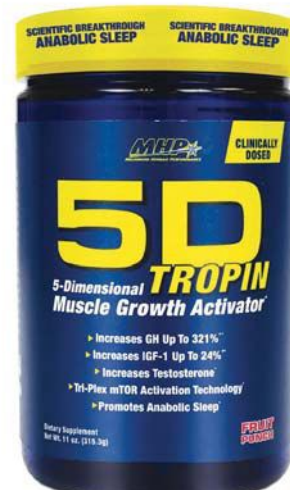


< BODYTECH HEXATEIN-SR

Hexatein-SR is formulated with 21 grams of six different proteins — including whey isolate, egg white and micellar casein — to provide a fast, medium and slow release of muscle-building amino acids. Packed with flavor, this high-quality protein helps create the anabolic environment needed to promote muscle growth and recovery.

MHP 5D-TROPIN >

MHP's 5D-Tropin is a muscle growth activator that helps promote hypertrophy and induces deep, anabolic sleep. This advanced formulation uses clinically tested anabolic agents to augment five of the most powerful muscle growth activators: GH, IGF-1, testosterone, mTOR and deep sleep. Grow while you sleep with 5D-Tropin.



< ARTHUR ANDREW MEDICAL AMINOLASE TPA

Dietary protein must be completely digested within 90 minutes to avoid kidney stress, wasted amino acids and the formation of toxic ammonia gas. Clinical evidence shows that Aminolase TPA allows for nine times more protein absorption when it's taken with dietary or supplemented protein.

ADVANCED MOLECULAR LABS POSTWORKOUT >

Postworkout repairs and re-energizes your muscles after training with a potent combination of leucine, creatine and betaine to help replenish muscle protein and glycogen levels. Combining these effects provides a robust biochemical milieu within muscle cells, driving exceptional growth and strength.



< BETANCOURT NUTRITION B-NOX

Grab your workout by the horns with B-Nox, a testosterone- and nitric oxide-infused drink mix. This potent pre-workout formula promotes strength and muscle performance to bring out the training matador in you. ■



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"PROBOLIC-SR is a great tasting protein that helps improve my performance and speeds recovery."

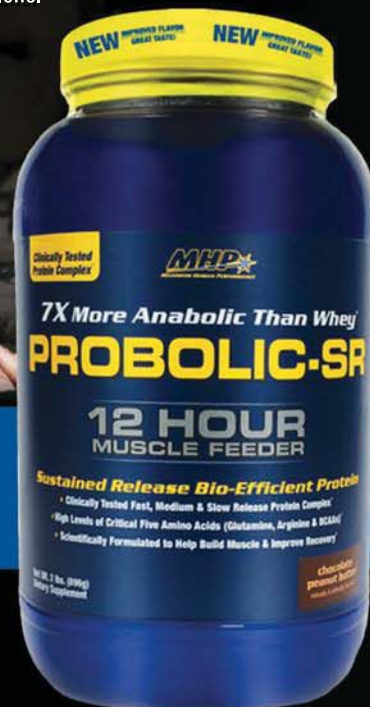
Chris Hogan
Buffalo Bills Wide Receiver

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To enhance its already powerful anabolic/anti-catabolic properties, Probiotic-SR contains a patented Sustained Release Micro-Feed Technology that extends the release of amino acids even further for longer anabolic action. This breakthrough delivery technology is so advanced, it's patented.

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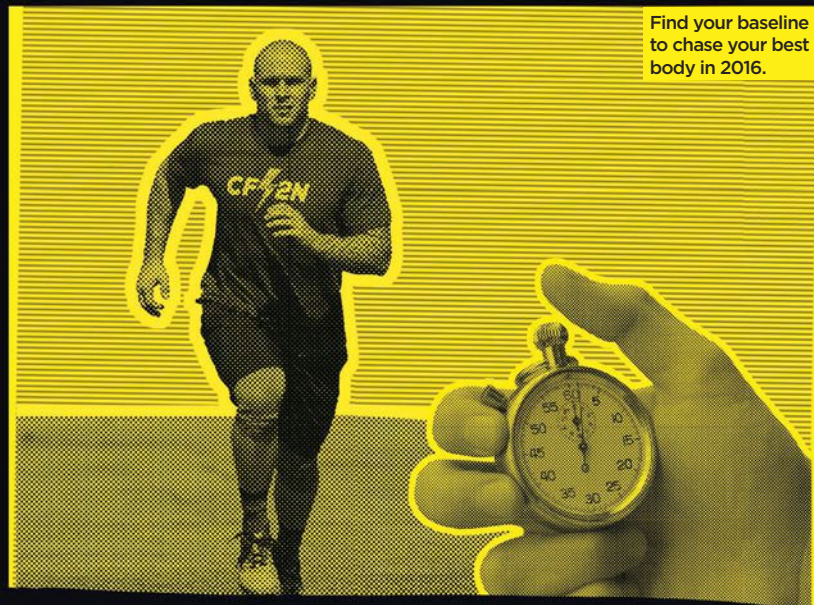
*"Soy-dairy protein blend and whey protein ingestion after resistance exercise increases amino acid transport and transporter expression in human skeletal muscle." Reidy, P.T. et al., Journal of Applied Physiology, April 3, 2014.
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5 WAYS

...TO TEST YOUR FITNESS LEVELS

FOR A MORE FRUITFUL FITNESS JOURNEY, START THE YEAR OFF BY ASSESSING WHERE YOU ARE IN TERMS OF STRENGTH, POWER, STAMINA AND BODY COMPOSITION.

BY ERIC VELAZQUEZ, CSCS



Find your baseline to chase your best body in 2016.

If you're just starting out or simply rekindling your commitment to good health, it's important to know and understand your current fitness levels. Not only will this provide a baseline for you to measure your progress, but it will also ensure a safe progression in the gym.

"Some things are a bit difficult or dangerous to do without some level of fitness, so you'll want to consult a physician before undertaking any fitness program or testing," says William J. Kraemer, Ph.D., FISSN, who is a professor of kinesiology and works in the Human Performance Laboratory at the University of Connecticut, Storrs. Having issued that caveat, he suggests the following to assess your strength, power, endurance, cardiovascular shape and body composition.

1 STRENGTH

"A good way to do this is with the Epley equation," Kraemer says. "Use a weight you can safely handle for, say, eight to 10 reps and get a good idea of your max to base your other lifts on."

To predict your max on certain lifts, multiply the number of reps at a certain weight by 0.033 and multiply that product by the weight used. Add that number to the weight used and you have your max. Consider this example: If you perform 10 reps on the bench press at 225 pounds, you multiply 10×0.033 , which gives you 0.33. Now multiply 0.33×225 and you get 74.25. Add 74.25 to your weight of 225 pounds and you have an estimated single-rep max of 299.25.

2 POWER

A good gauge of the amount of power your legs and core can produce is a vertical jump test. You can do this at home with a marked wall or other measurable indicator. From a standstill and with your feet planted firmly on the floor, squat down and explode upward, swinging your arm(s) up to the measuring target. The highest point you reach with your lead hand is the measurement. If you're wondering what a "superhuman" result is, Michael Jordan scored a jump of 48 inches in

his prime. His contemporary, Larry Bird, had a less-dazzling vertical of 28 inches. You'll want to aspire to a Jordanesque vertical because it has fantastic carryover to the squat, but don't beat yourself up too much if you don't come close.

3 ENDURANCE

To get a read on how long your muscles can go, follow the military's lead. "Simple push-up and sit-up tests like they do in the military are a great indicator of muscular endurance," Kraemer says. If you're 30 years old, for example, you'd need to perform 77 push-ups and 82 sit-ups without stopping for a perfect score. Another way is to see how many of each you can do in a minute.

4 CARDIOVASCULAR SHAPE

"There are many tests for this, but an easy one is the 1.5-mile run," Kraemer says. Using a stopwatch, simply time yourself from start to finish. (If you don't have a track nearby, try a website like mapmyrun.com to measure road routes or use an app like Strava.) "Make sure you've spoken with a doctor first to rule out any pre-existing health conditions that would contraindicate this test," Kraemer advises. Looking for a comparison for your time? The U.S. Coast Guard requires male recruits age 30 and younger to complete the run in 12:51 or better.

5 BODY COMPOSITION

"We all know by now that the body mass index is worthless," Kraemer says. "What you want to do is get with a trained professional who knows how to take an accurate skinfold measurement to test for your actual body fat." A good measurement for a healthy athlete is 6 to 13 percent, according to the American Council on Exercise, but up to 26 percent is considered an acceptable healthy range. ■

William J. Kraemer, Ph.D., FISSN, is a full professor in the department of kinesiology working in the Human Performance Laboratory at the University of Connecticut, Storrs.

Photo by Peter Lueders

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